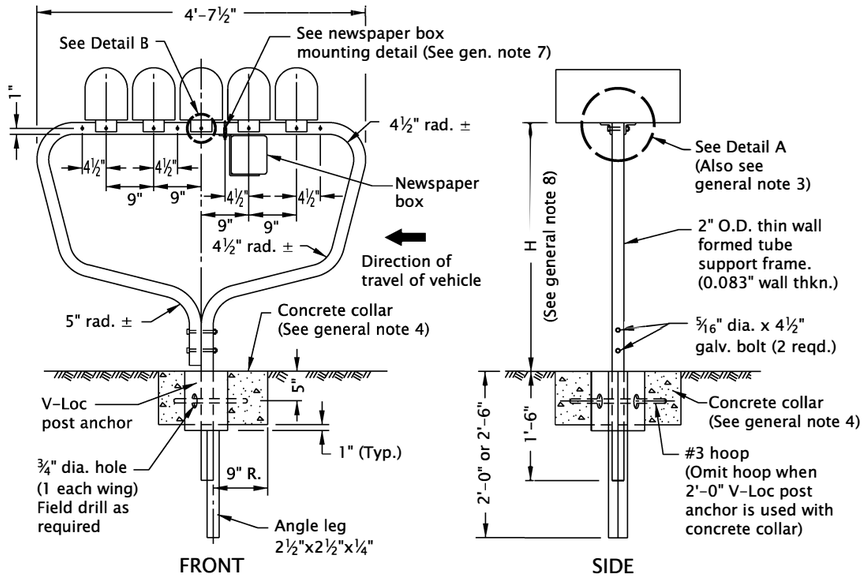
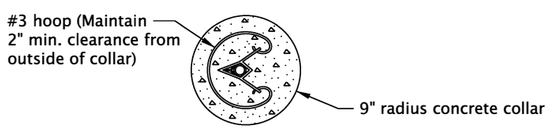
rd100.dgn 20-JUL-2020

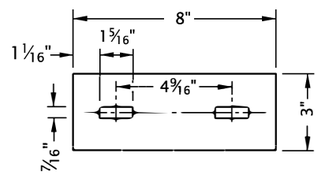




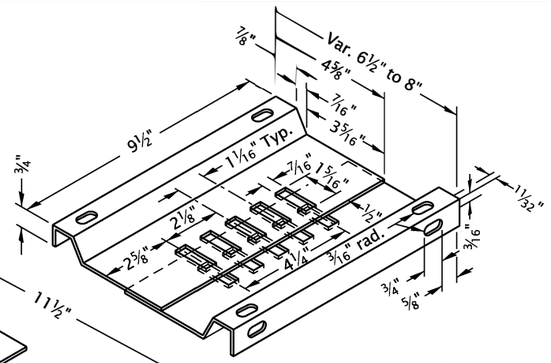
CONCRETE COLLAR
(See general note 4)

MULTIPLE SUPPORT

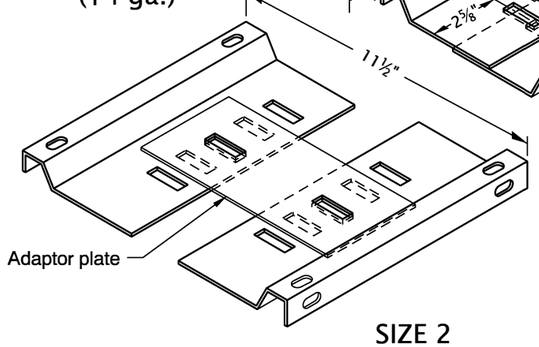
(Supports 5 standard (Sizes 1 & 1½) mailboxes or 4 large (Size 2) mailboxes)



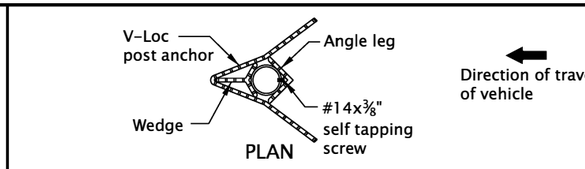
ADAPTOR PLATE
(14 ga.)



SIZE 1 & 1½
MOUNTING BRACKET
(16 ga.)



SIZE 2
MOUNTING BRACKET (16 ga.)
WITH ADAPTOR PLATE (14 ga.)



Direction of travel of vehicle

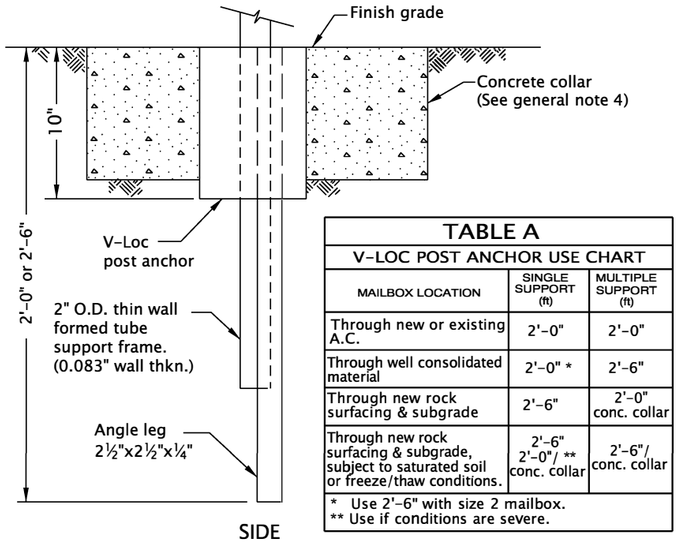
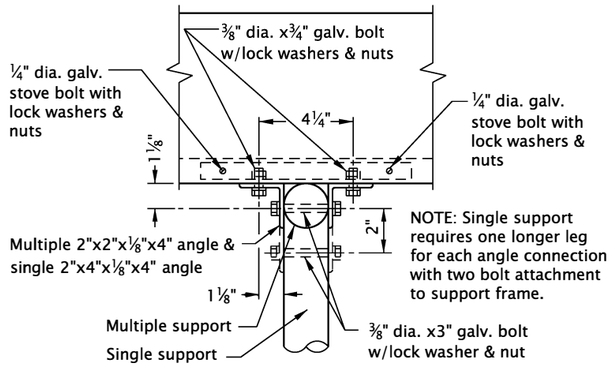


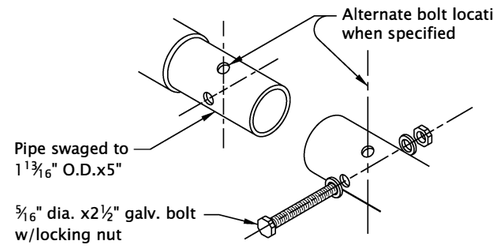
TABLE A V-LOC POST ANCHOR USE CHART		
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/thaw conditions.	2'-6" 2'-0"/ ** conc. collar	2'-6"/ conc. collar

* Use 2'-6" with size 2 mailbox.
** Use if conditions are severe.

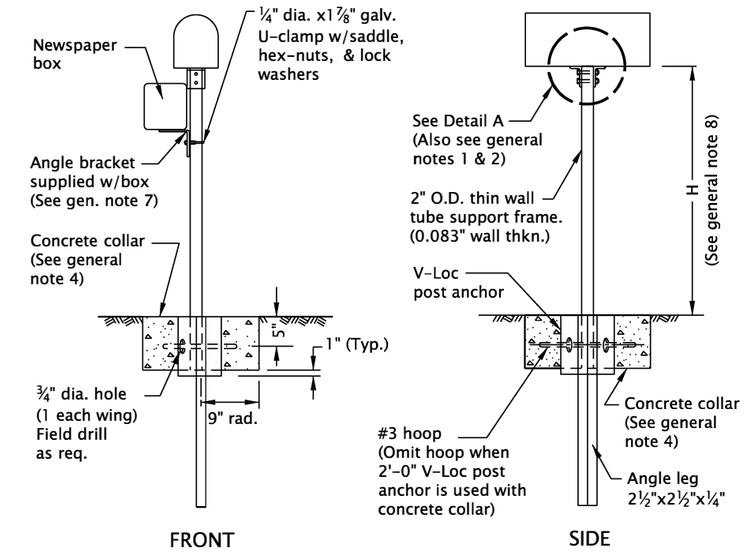
POST MOUNTING SOCKET



DETAIL A



DETAIL B



SINGLE SUPPORT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
2. All holes in the tube support frame are to be predrilled by the manufacturer.
3. Size 2 mailbox mounted on a multiple support requires 2 each ⅜" dia. x⅝" galv. bolts with lock washers and nuts to attach the adaptor plate to the mounting bracket. The unit will then require 4 angle connections to attach to the formed tube support frame. See Detail A.
4. Provide concrete collar when any of the following conditions exist:
   a) when required in Table A
   b) when required by project plans
   c) as directed by the Engineer

   Concrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
5. Other proprietary products available as listed in ODOT's QPL.
6. For mailbox installation locations, see Std. Dwg. RD101 and project plans.
7. For Newspaper Box Mounting Detail, see Std. Dwg. RD101.
8. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
9. See project plans for detail not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

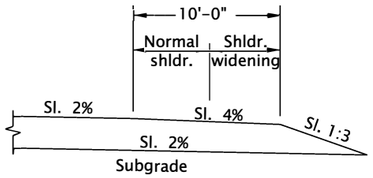
MAILBOX SUPPORT

2024

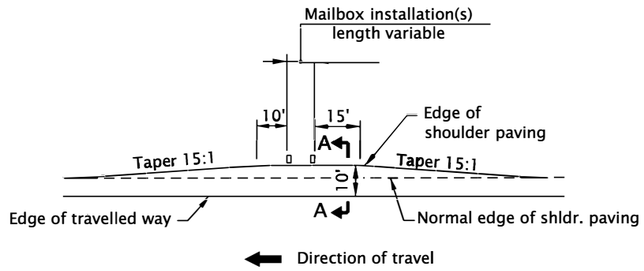
DATE	REVISION DESCRIPTION

RD100

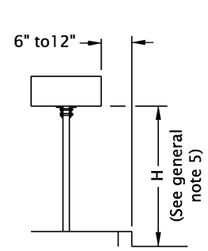
Effective Date: January 1, 2024 - December, 2024



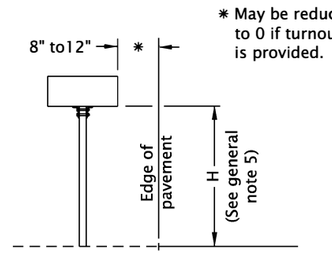
SECTION A-A



MAILBOX SERVICE TURNOUT

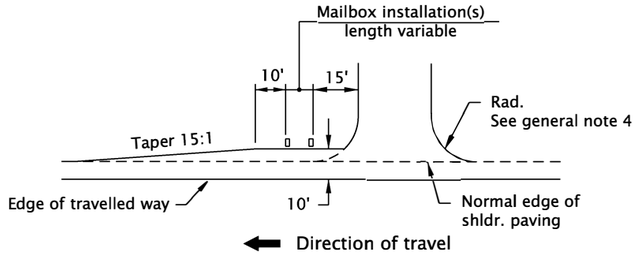


CURBED SECTION

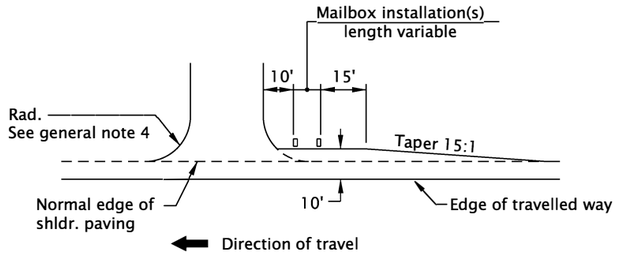


NON-CURBED SECTION

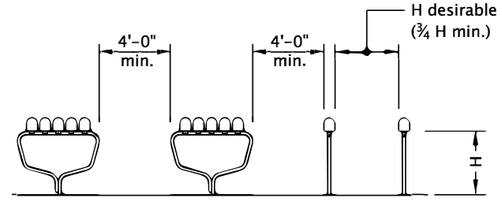
PLACEMENT



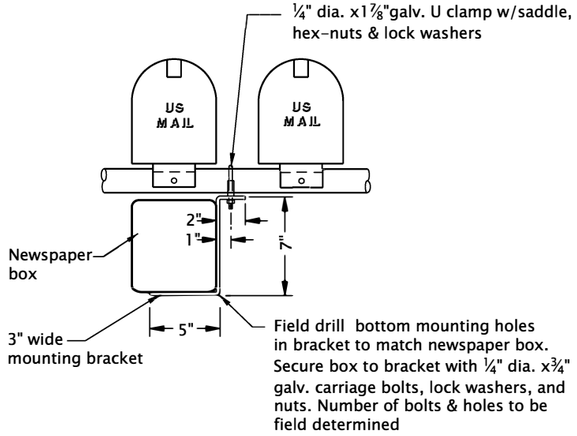
MAILBOX SERVICE TURNOUT AFTER APPROACH



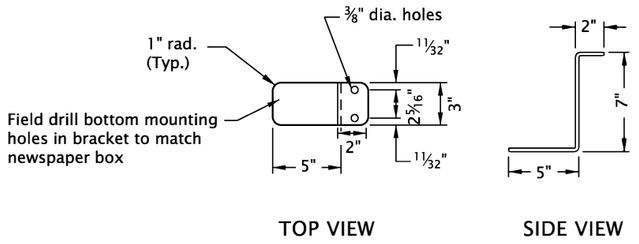
MAILBOX SERVICE TURNOUT BEFORE APPROACH



SUPPORT SPACING



NEWSPAPER BOX MOUNTING DETAIL



NEWSPAPER BOX MOUNTING BRACKET DETAIL (14 ga.)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All holes in the tube support frame are to be predrilled by the manufacturer.
2. Other proprietary products available as listed in ODOT's QPL.
3. For mailbox support details, see Std. Dwg. RD100.
4. For approach details, see Std. Dwg. RD715.
5. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
6. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

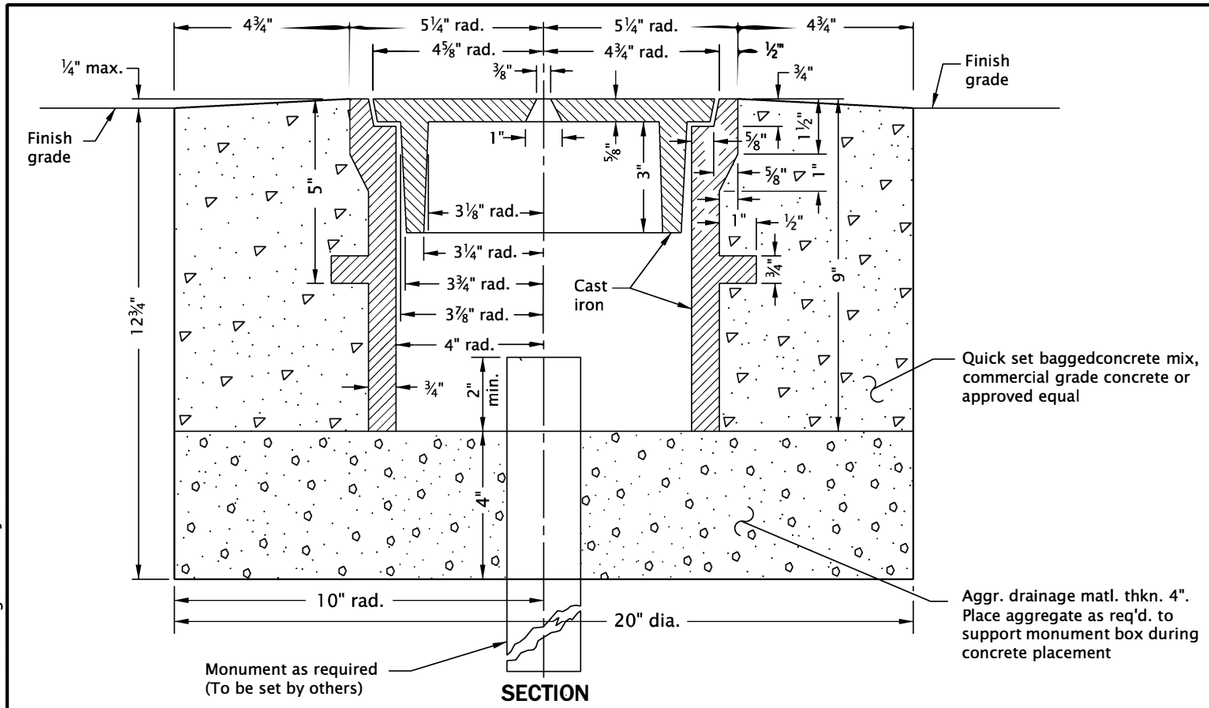
MAILBOX INSTALLATION

2024

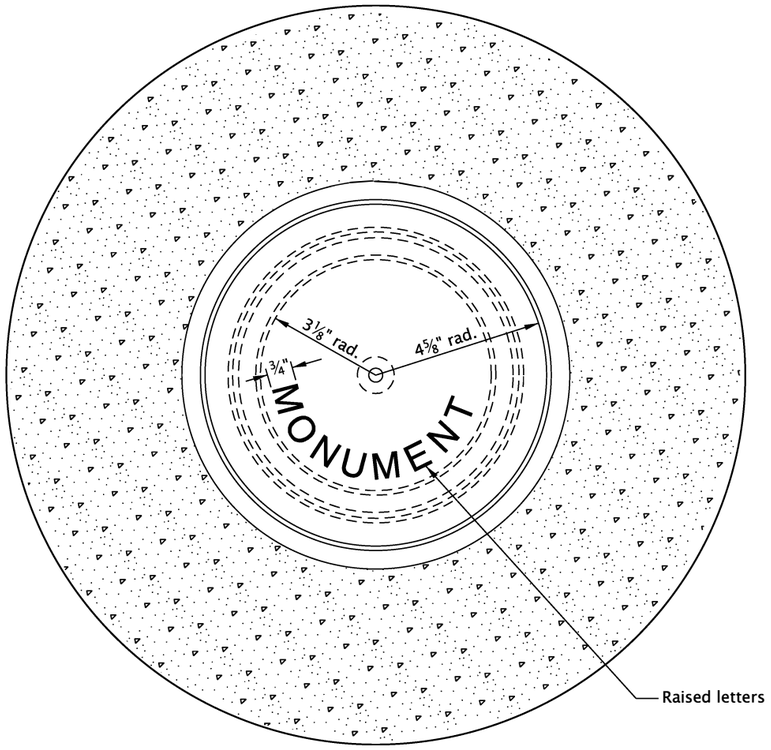
DATE	REVISION DESCRIPTION

rd101.dgn 20-JUL-2020

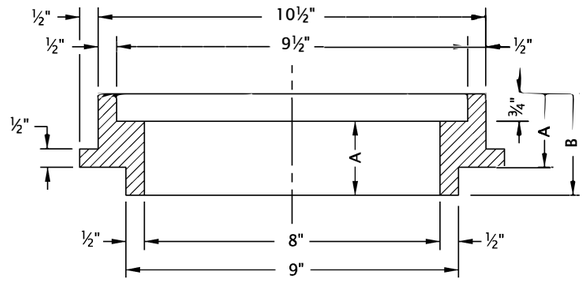
RD101



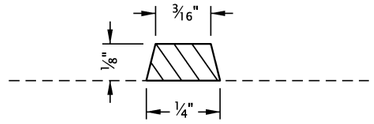
SECTION



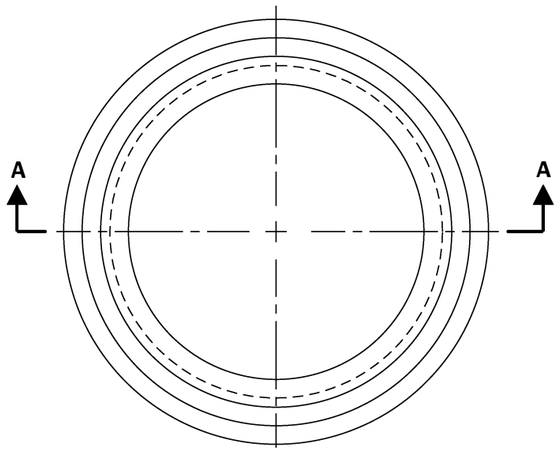
PLAN OF COVER



SECTION A-A



SECTION OF RAISED LETTER



PLAN

RISER RING

RISER RING TABLE

DIM.	RISER RING ADJUSTMENT HEIGHT			
	1½"	2"	2½"	3"
A	1½"	2"	2½"	3"
B	2¼"	2¾"	3¼"	3¾"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See project plans for details not shown.

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CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in acoordance with the current City of The Dalles standard specifications

CITY OF THE DALLES STANDARD DRAWINGS

MONUMENT BOX

2024

DATE	REVISION DESCRIPTION

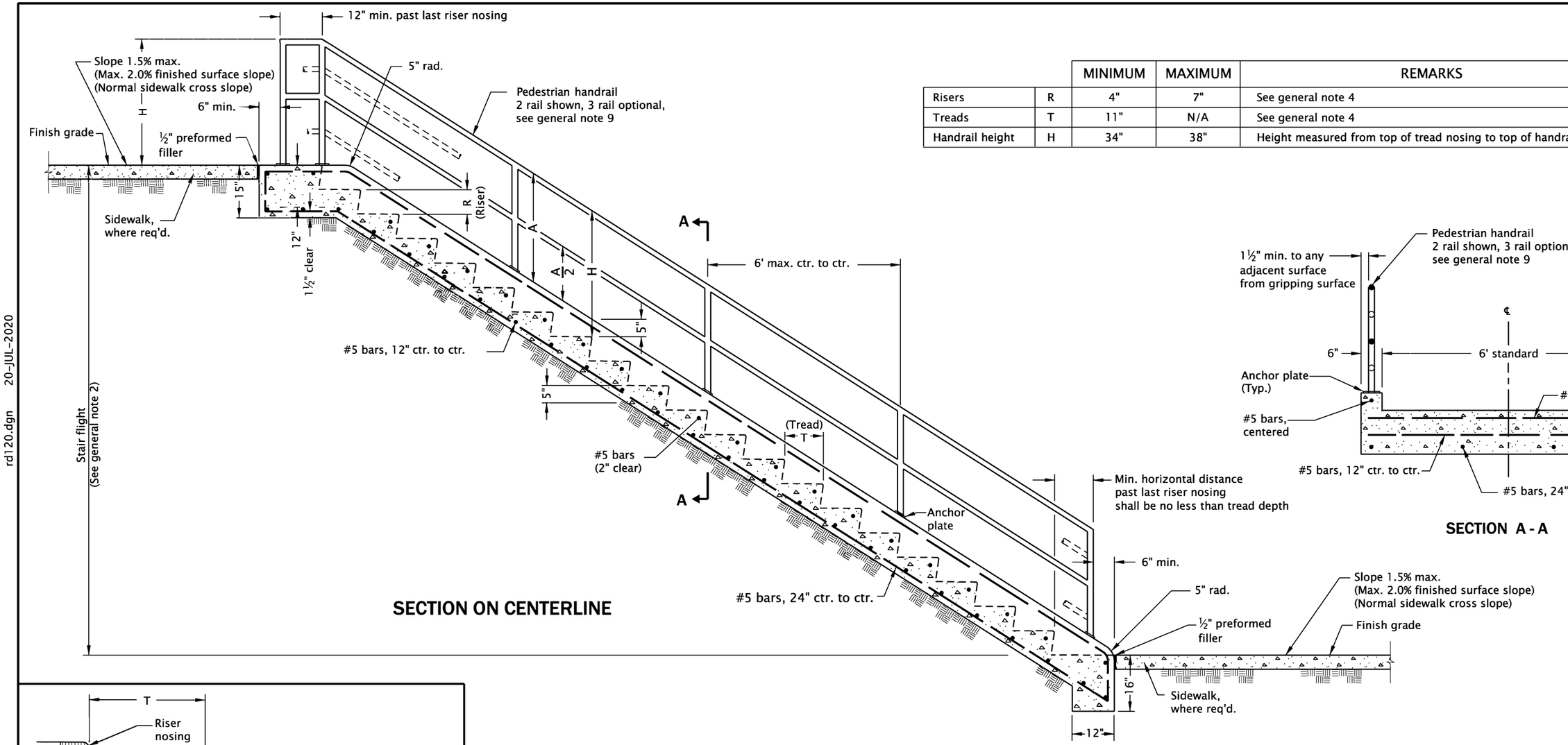
rd115.dgn 20-JUL-2020

RD115

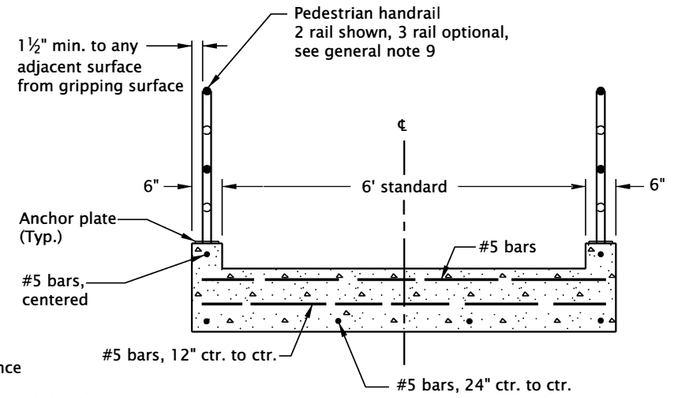
Effective Date: January 1, 2024 - December 31, 2024

rd120.dgn 20-JUL-2020

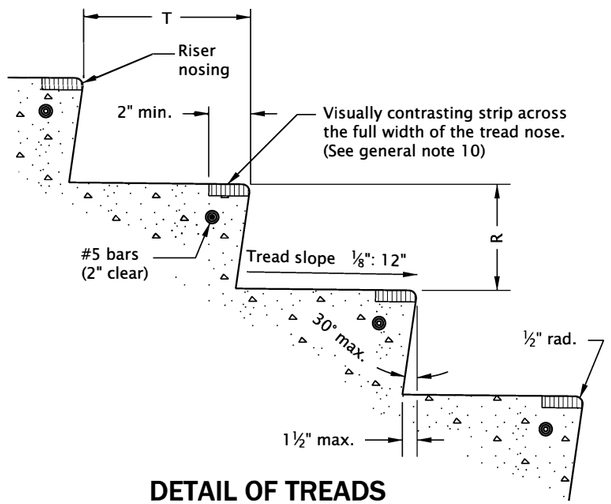
		MINIMUM	MAXIMUM	REMARKS
Risers	R	4"	7"	See general note 4
Treads	T	11"	N/A	See general note 4
Handrail height	H	34"	38"	Height measured from top of tread nosing to top of handrail



SECTION ON CENTERLINE



SECTION A - A



DETAIL OF TREADS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on United States Access Board Standards.
2. Maximum vertical rise between finish grade of landings shall be 12'.
3. Number of steps varies. Round edges of steps and all other exposed edges to ½" radius.
4. All risers in a stair flight shall be the same height.
   All treads in a stair flight shall be the same depth.
5. Handrail height (H) to be constant within a stair flight.
6. All concrete shall be commercial grade concrete.
7. All reinforcing steel to be placed a minimum of 2" clear of nearest face of concrete unless otherwise shown or noted.
8. See Std. Dwg. RD720 for sidewalk details.
9. See Std. Dwgs. RD770 & RD771 for pedestrian handrail details.
10. Provide painted contrasting strip (color shall be safety yellow), or approved equal.
11. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 16-JAN-2018

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE STAIRWAY

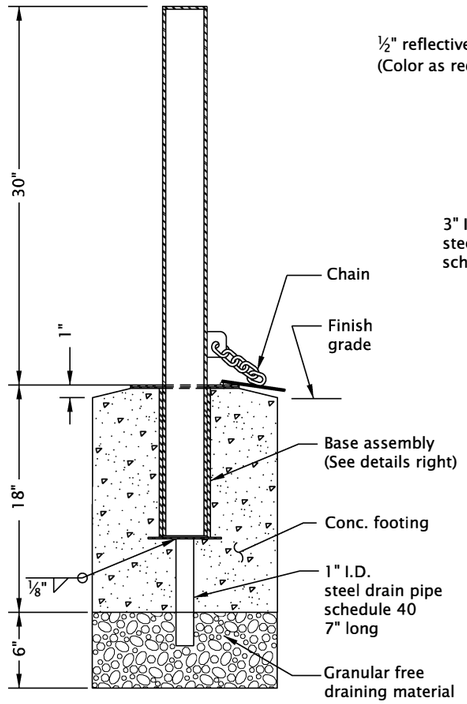
2024

DATE	REVISION DESCRIPTION

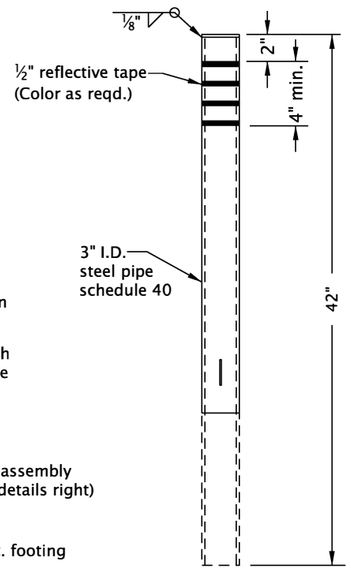
RD120

Effective Date: January 1, 2024- December 31, 2024

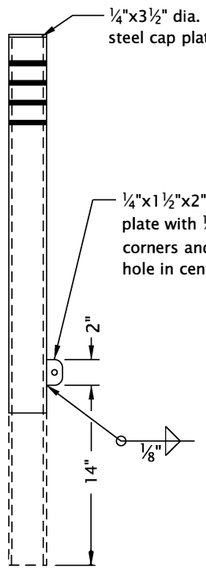
rd130.dgn 20-JUL-2020



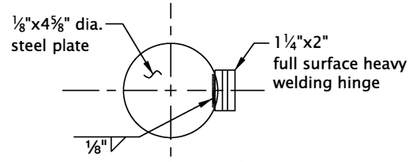
SECTION A-A



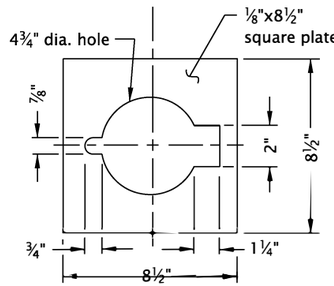
FRONT VIEW



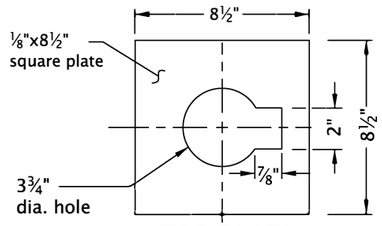
SIDE VIEW



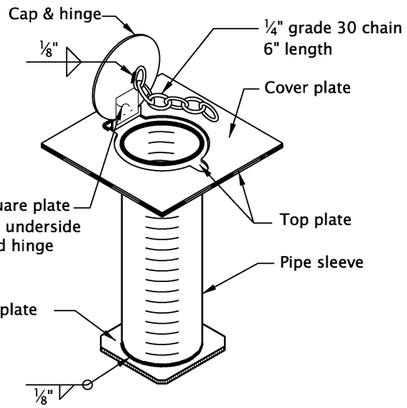
CAP & HINGE



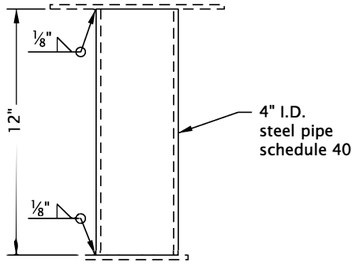
COVER PLATE



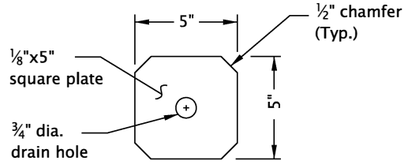
TOP PLATE



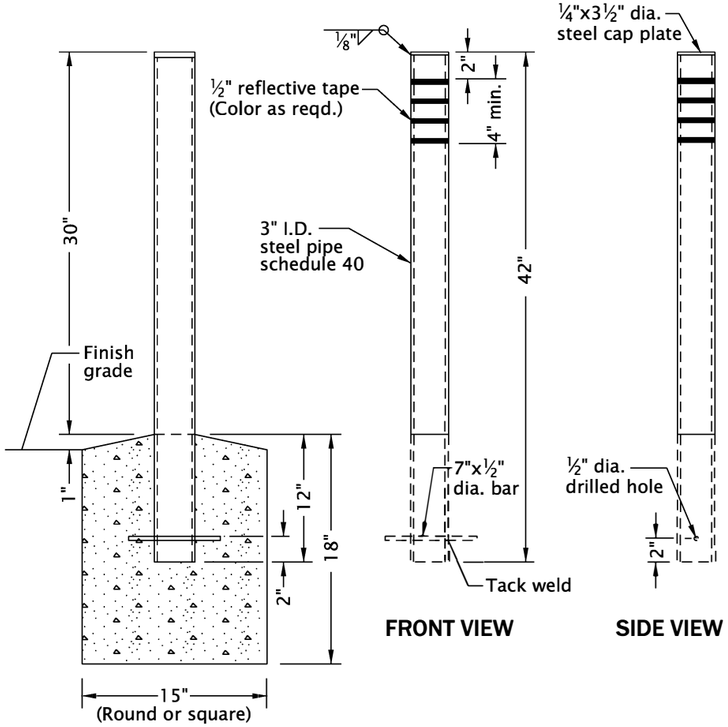
REMOVABLE



PIPE SLEEVE



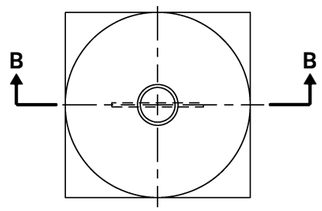
BASE PLATE
BASE ASSEMBLY



SECTION B-B

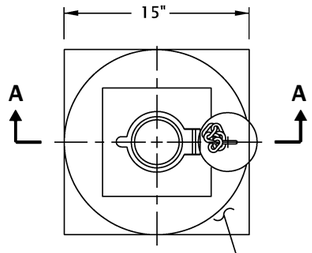
FRONT VIEW

SIDE VIEW



PLAN

NON-REMOVABLE



PLAN

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Grind all edges smooth.
2. Prime and paint bollard safety yellow after fabrication.
3. Hot-dip galvanize base assembly after fabrication.
4. All concrete shall be commercial grade concrete.
5. Orient lock assembly parallel with pedestrian traffic.
6. Provide lock, if required.
7. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

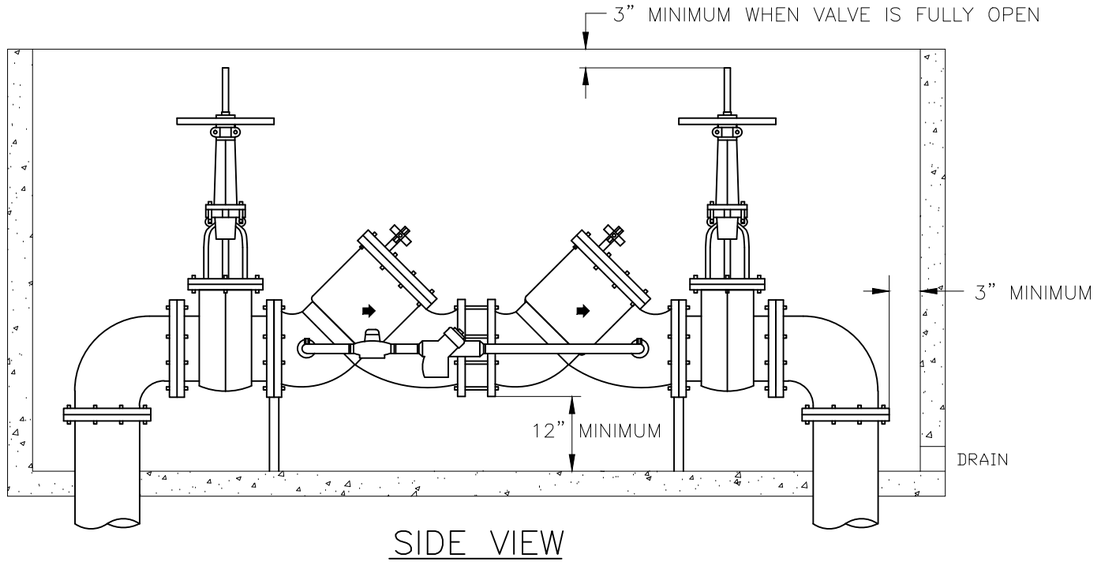
BOLLARDS

202₄

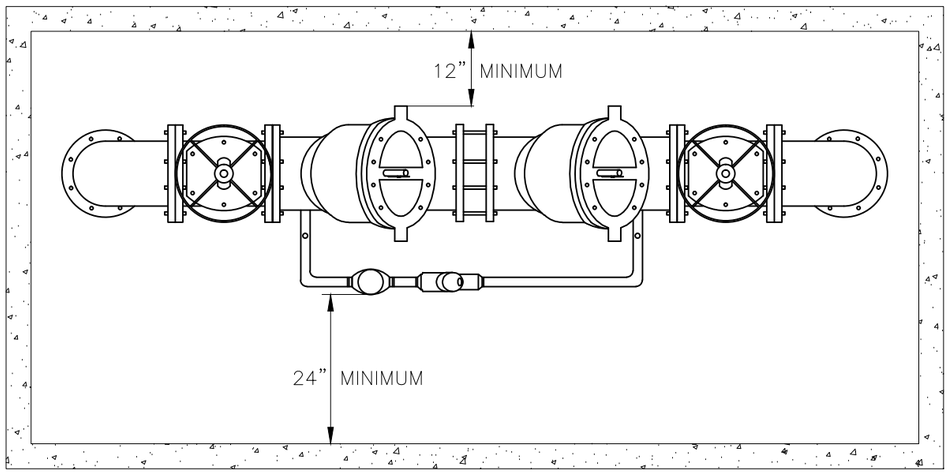
DATE	REVISION DESCRIPTION

RD130

Effective Date: **January 1, 2024 - December 31, 2024**



SIDE VIEW



TOP VIEW

NOTES:

1. LID IS TO BE SPRING LOADED AND ABLE TO LOCK IN THE OPEN POSITION.

2. ASSEMBLY MUST BE FREEZE PROTECTED

3. ALL BELOW GROUND AND VAULT INSTALLATIONS SHALL HAVE NON-GALVANIZED, THREADED, AND WATER-TIGHT FITTED PLUGS OR CAPS ON THE TEST PORTS.

4. RPDA ASSEMBLIES MUST NOT BE INSTALLED IN AN ENCLOSED VAULT OR BOX UNLESS A BORE-SIGHTED DRAIN TO DAYLIGHT IS PROVIDED.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

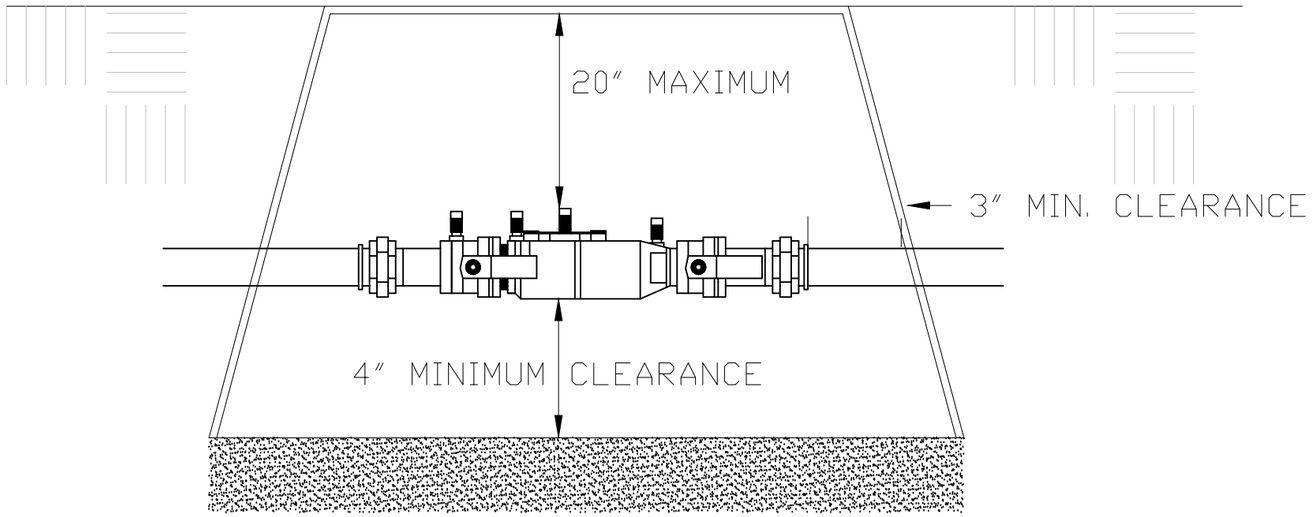
NOTE: All material and workmanship shall be in accordance with with the current Oregon Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) OR REDUCED PRESSURE DETECTOR (RPDA) INSTALLATION

2024

REVISIONS	
DATE	DESCRIPTION



NOTES:

1. CANNOT BE SUBJECTED TO CONTINUANCE FLOODING.
2. ASSEMBLY MUST BE FREEZE PROTECTED
3. TEST COCKS FITTED WITH WATER TIGHT PLUGS

TYPICAL BELOW GROUND INSTALLATION

RECOMMENDED ENCLOSURE SIZES	
SERVICE SIZE	BOX SIZE
3/4" TO 1"	14" X 19"
1-1/2" TO 2"	17" X 30"

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

DOUBLE CHECK VALVE ASSEMBLY
BELOW GROUND
2" AND SMALLER

2024

REVISIONS	
DATE	DESCRIPTION

RD212

RD212

THRUST BLOCKING

TABLE A

CONCRETE THRUST BLOCKING (HORIZONTAL)

PIPE DIA.	Table Pressure PSI	Thrust (T) at fittings in Pounds A Tee & Dead Ends	B 90 deg Bend	C 45 deg Bend	D 22.5 deg Bend	E 11.25 deg Bend
4"	250	3035	4320	2315	1215	610
6"	250	6860	9735	5215	2720	1375
8"	250	12185	17310	9265	4835	2430
10"	250	19045	27045	14480	7560	3800
12"	250	27405	38940	20840	10880	5465
14"	250	37320	53010	28370	14815	7445
16"	250	48740	69245	37050	19360	9735

TABLE B

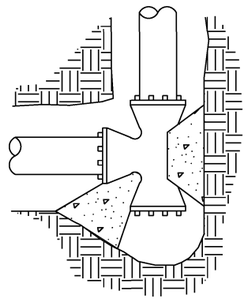
Soil Type	Soil Bearing Capacity (B) in PSF
Muck, peat, etc.	0
Soft Clay	1000
Sand	2000
Sand and gravel	3000
Sand and gravel cemented with clay	4000
Hard shale	10,000

TABLE C

CONCRETE BLOCKING FOR CONVEX VERTICAL BENDS

DIMENSION TABLE

PIPE DIA. in.	Table Pressure PSI	Bend Angle (deg)	Concrete Volume (cy)	Cube Size (ft)	Stirrup Dia. (in)	Stirrup Embmt. (in)	Stirrup Bar #
4"	250	11.25	0.21	1.8	5/8	17	5
		22.5	0.43	2.3			
		45	0.77	2.8			
6"	250	11.25	0.48	2.4	5/8	17	5
		22.5	0.95	3.0			
		45	1.79	3.6			
8"	250	11.25	0.86	2.9	5/8	17	5
		22.5	1.65	3.5			
		45	3.22	4.4			
10"	250	11.25	1.39	3.3	5/8	17	5
		22.5	2.62	4.1			
		45	4.97	4.1			
12"	250	11.25	1.94	3.7	5/8	17	5
		22.5	3.91	4.7			
		45	6.89	5.7	7/8	24	7
14"	250	11.25	2.62	4.1	5/8	17	5
		22.5	5.26	5.2	3/4	20	6
		45	9.70	6.4	1	27	8
16"	250	11.25	3.44	4.5	5/8	17	5
		22.5	6.89	5.7	7/8	24	7
		45	12.63	7.0	1 1/8	30	9



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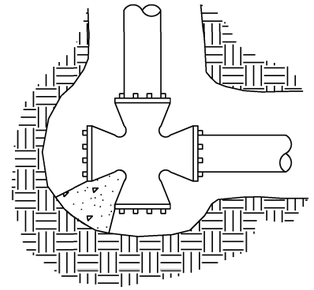

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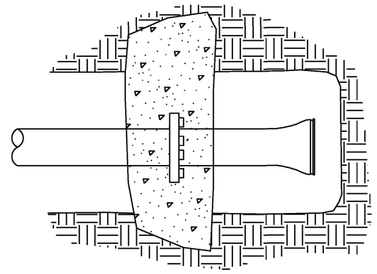
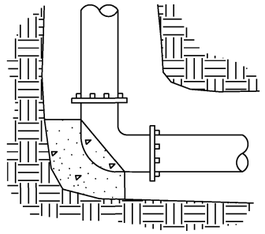
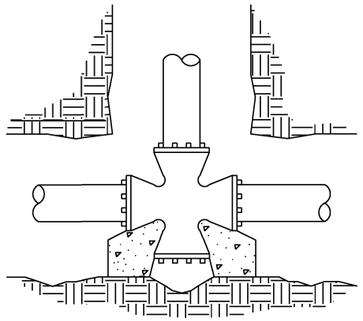


STRADDLE



BEND



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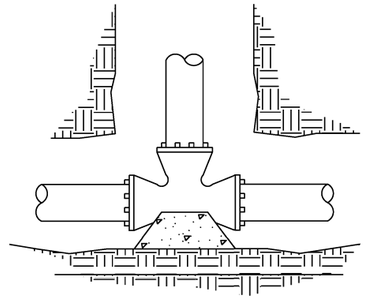

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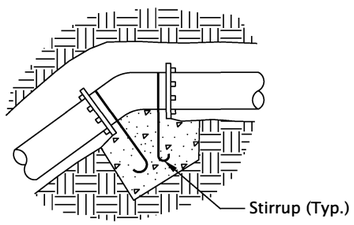
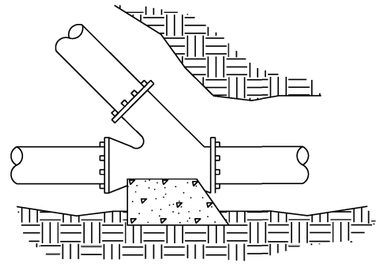


CONVEX VERTICAL BEND

(See Table C)



WYE

THRUST BLOCK BEARING AREA EQUATION

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, USE THE FOLLOWING PROCEDURE TO DETERMINE REQUIRED BEARING AREA.

1. Determine thrust (T) for type of fitting or joint and size of pipe from Table A.
2. Determine Design (Test) Pressure from Standard Specifications or Special Provisions.
3. Determine Table Pressure from Table A.
4. Determine Soil Bearing Capacity (B) of soil from Table B.
5. Determine required bearing area (A) in sq. ft. as follows:

$$\text{Thrust Block Bearing Area} = A = \left(\frac{T}{B}\right)\left(\frac{\text{Design (Test) Pressure}}{\text{Table Pressure}}\right)$$

Example: Design (Test) Pressure = 150 PSI
Pipe = 14"
Fitting = Tee
Soil = Sand

From Table A, T = 37320
From Table B, B = 2000

$$A = \left(\frac{37320}{2000}\right)\left(\frac{150}{250}\right) = 11.2 \text{ sq.ft.}$$

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Contractor to provide blocking adequate to withstand full test pressure.
2. Pour concrete blocking against undisturbed earth.
3. All concrete shall be commercial grade concrete.
4. Wrap pipe and/or fittings with 2 layers of polyethylene film where in contact with concrete
5. Keep concrete clear of all joints and accessories.
6. Stirrups shall be deformed galvanized cold rolled steel AASHTO M31 (ASTM A615), Grade 60. Coat with coal tar epoxy after installation.
7. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

THRUST BLOCKING

2024

DATE	REVISION DESCRIPTION

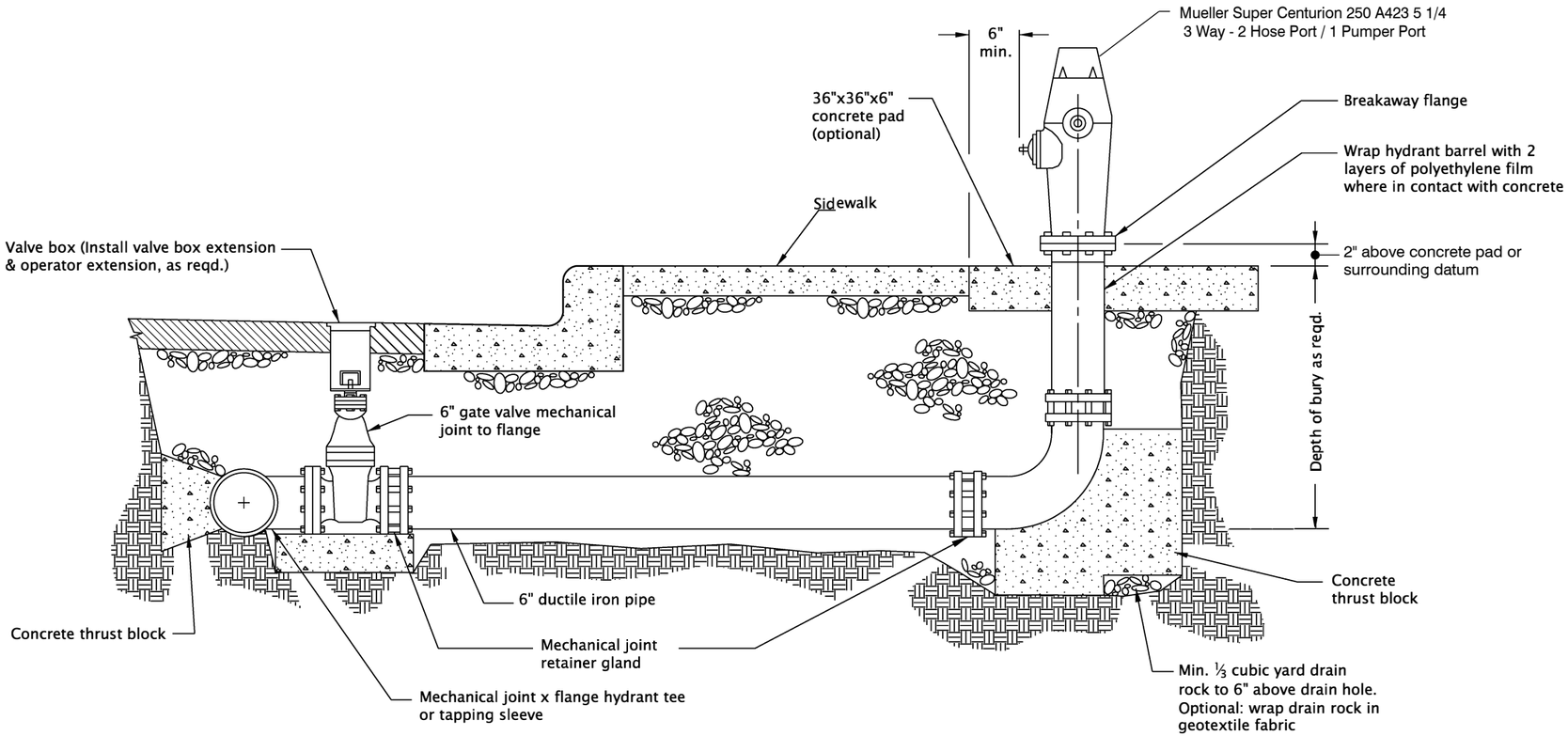
Effective Date: January 1, 2024 - December 31, 2024

RD250

rd250.dgn 20-JUL-2020

RD250

rd254.dgn 20-JUL-2020



HYDRANT ASSEMBLY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. When pipe is shorter than 18', no joints allowed. Use mechanical joint retainer glands. Two ¾" galvanized tie rods may be used in lieu of thrust blocks for installations less than 18' long. Coat tie rods with two coats of coal tar epoxy.
2. When pipe is longer that 18' retainer glands not required.
3. There shall be a minimum of 18" horizontal clearance around hydrant.
4. When placed adjacent to curb, hydrant port shall be 24" from face of curb.
5. Concrete thrust blocks shall be constructed as per thrust blocking Std. Dwg. RD250. Do not block drain holes.
6. Extensions required for hydrant systems shall be installed to the manufacturer's specifications.
7. Hydrants shall be placed to provide a minimum of 5' clearance from driveways, poles, and other obstructions.
8. Hydrant pumper port shall face direction of access.
9. Set hydrant plumb in all directions.
10. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

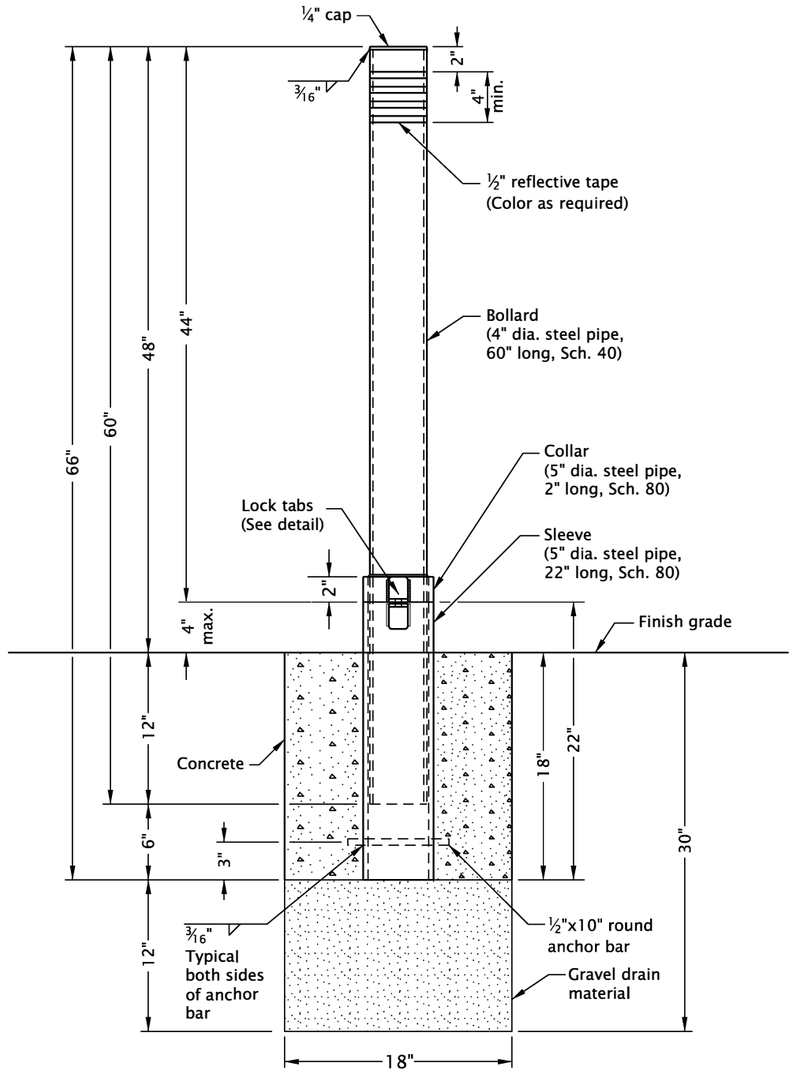
CITY OF THE DALLES STANDARD DRAWINGS

HYDRANT INSTALLATION

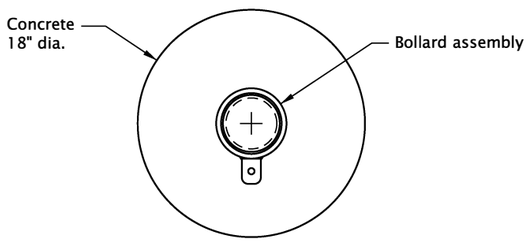
2024

DATE	REVISION DESCRIPTION

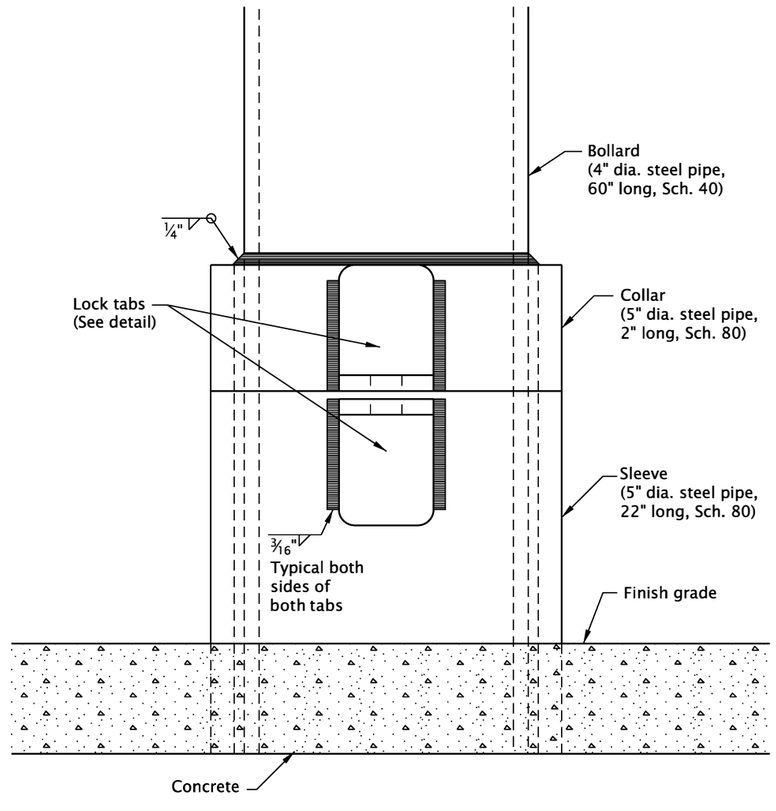
RD254

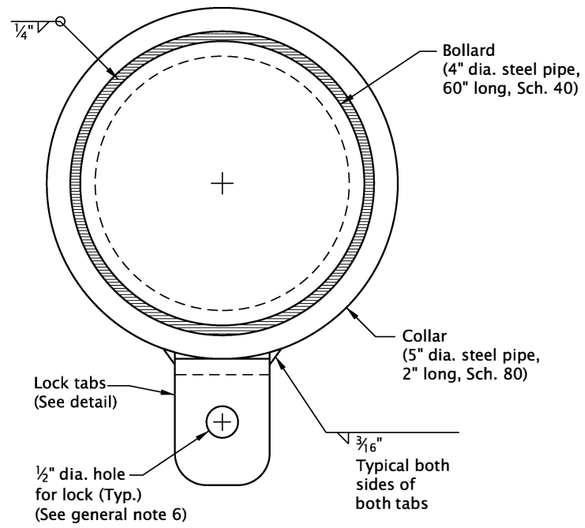


ELEVATION

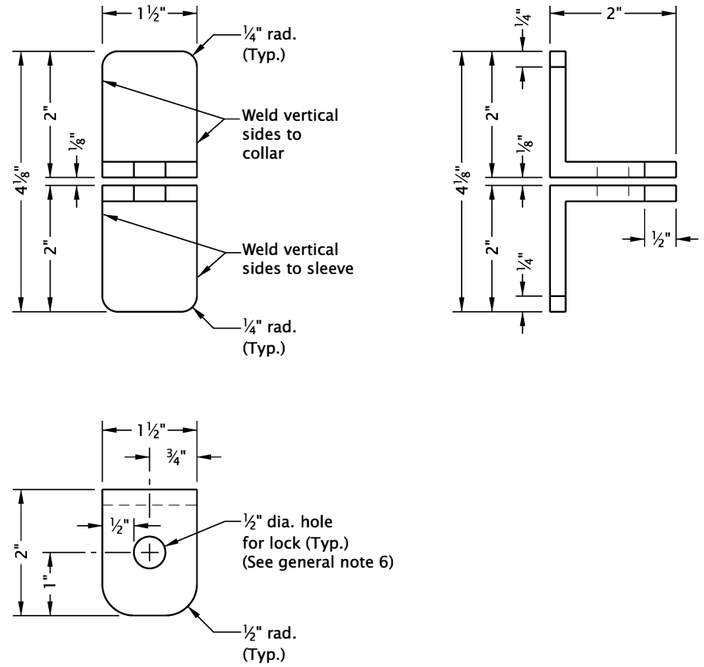


PLAN





COLLAR & LOCK TABS



LOCK TABS

(2"x2"x¼" steel angle)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Grind all edges smooth.
2. Prime and paint bollard safety yellow after fabrication.
3. Hot-dip galvanize sleeve after fabrication.
4. All concrete shall be commercial grade concrete.
5. Orient lock assembly parallel with pedestrian traffic.
6. Provide lock, if required.
7. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

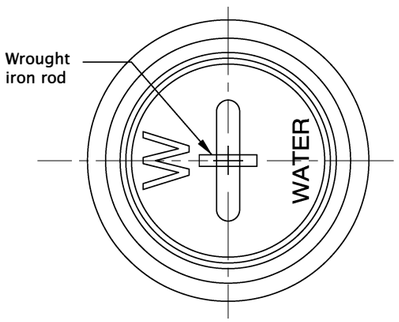
HYDRANT BOLLARD

2024

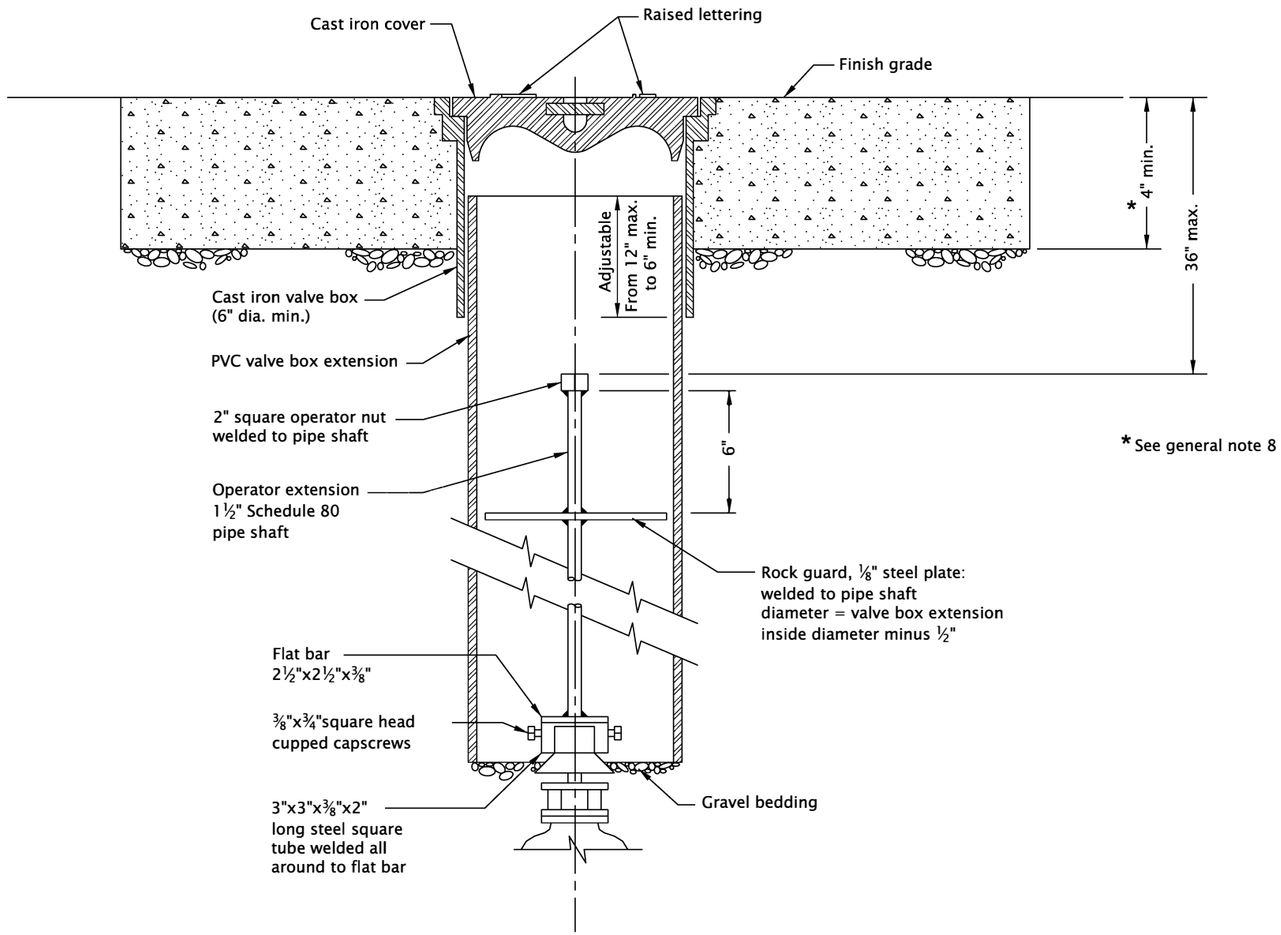
DATE	REVISION DESCRIPTION

RD255

20-JUL-2020 rd255.dgn

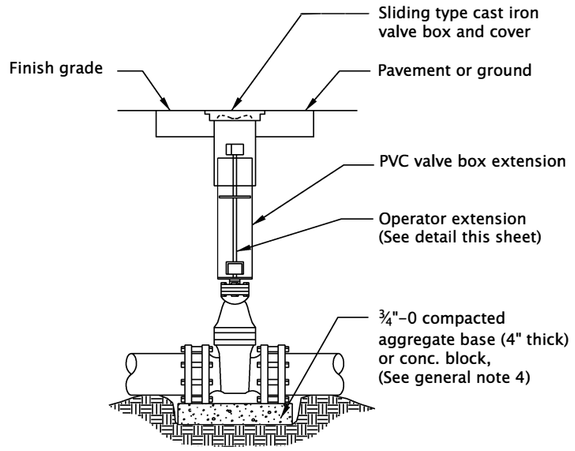


COVER PLAN



* See general note 8

VALVE BOX EXTENSION SECTION



VALVE BOX
ASSEMBLY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Valve box not to rest on operating assembly.
2. Operator extension required when valve nut is deeper than 4' from finish grade.
3. Center valve box on axis of operator nut.
4. Valves 12" and smaller shall be provided with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block, (4" thick).
5. Welds shall be minimum ¼" all around.
6. Hot dip galvanize operator extension after fabrication.
7. Casting shall meet H20 load requirement.
8. Provide concrete or asphalt pad (24" square, 4" thick), when required.
9. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

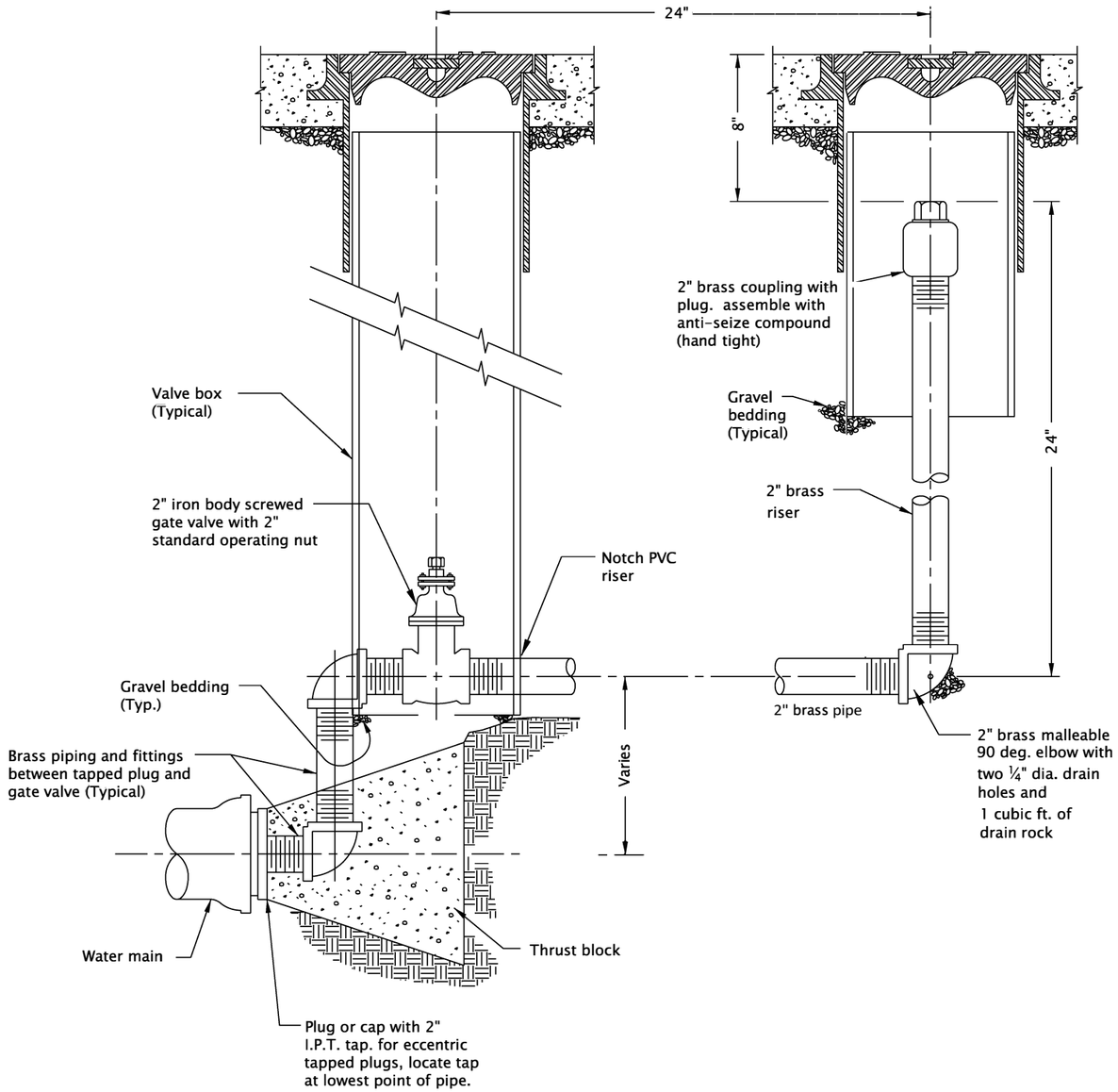
VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

2024

DATE	REVISION DESCRIPTION

rd258.dgn 20-JUL-2020

RD258



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Wrap main and fittings in thrust block zone with two layers of polyethylene film to facilitate future removal.
2. In lieu of concrete thrust block, restrain pipe or pour concrete straddle block.
3. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

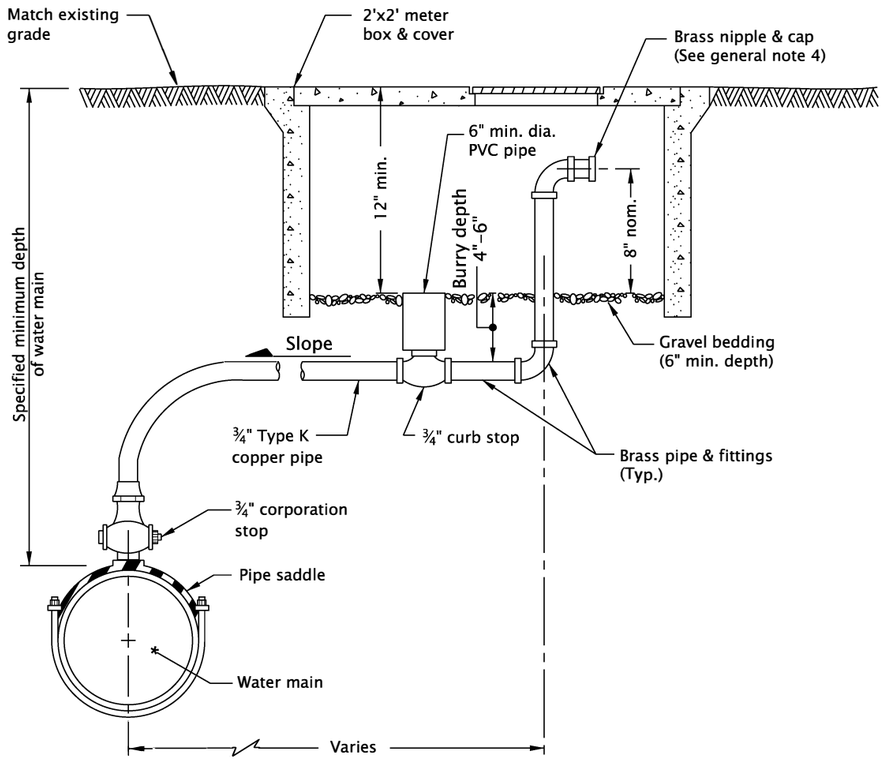
CITY OF THE DALLES STANDARD DRAWINGS

TYPICAL MAIN DEAD-END BLOWOFF ASSEMBLY

2024

DATE	REVISION DESCRIPTION

RD262



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Locate at high point of main.
2. Tap top of main.
3. Provide insulation and additional depth when specified for freeze protection.
4. Provide minimum 6" side clearance.
5. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

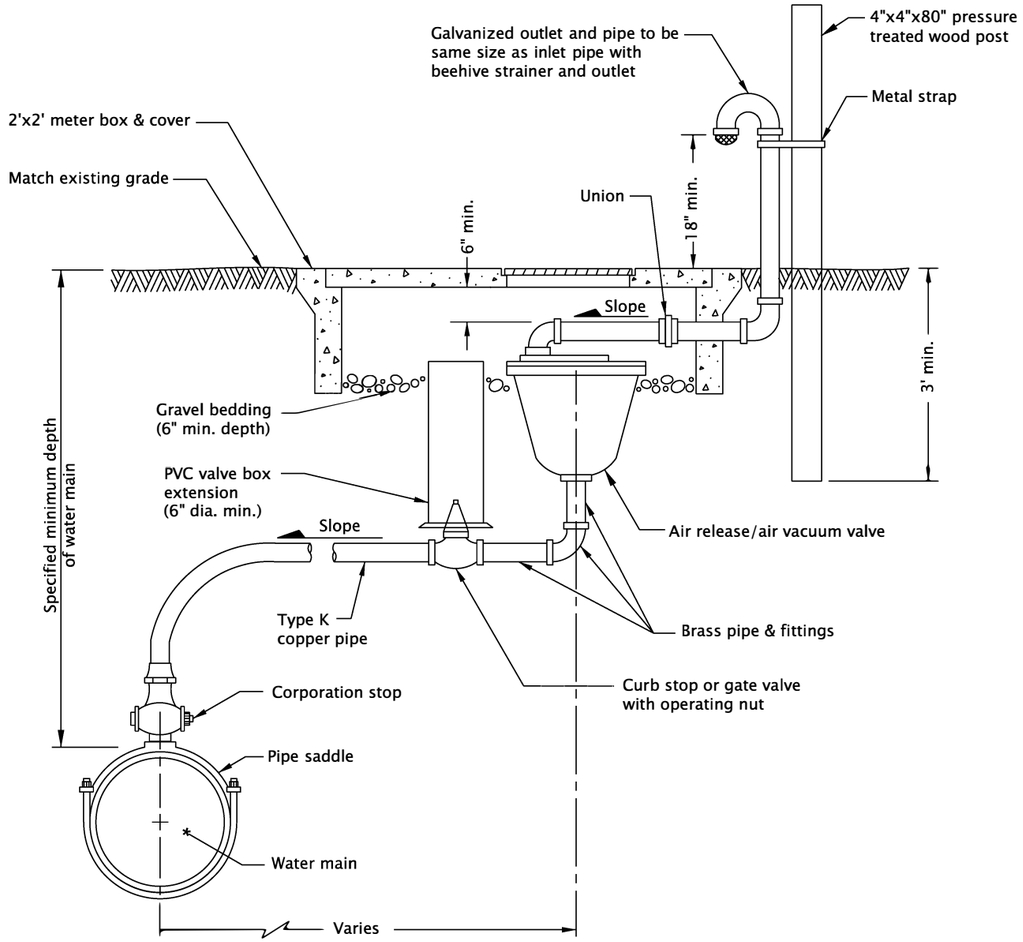
MANUAL AIR-RELEASE ASSEMBLY (¾")

2024

DATE	REVISION DESCRIPTION

rd266.dgn 20-JUL-2020

RD266



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Air release/air vacuum valve shall be size specified in Contract. Piping and valves to be same size as combination air release/air vacuum valve.
2. Locate at high point of main.
3. Tap top of main.
4. Provide insulation and additional depth when specified for freeze protection.
5. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

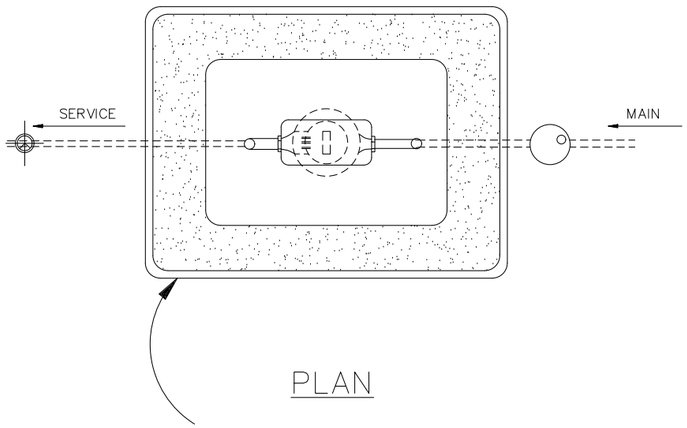
CITY OF THE DALLES STANDARD DRAWINGS

COMBINATION AIR RELEASE AIR VACUUM VALVE ASSEMBLY (2" AND SMALLER)

2024

DATE	REVISION DESCRIPTION

RD270



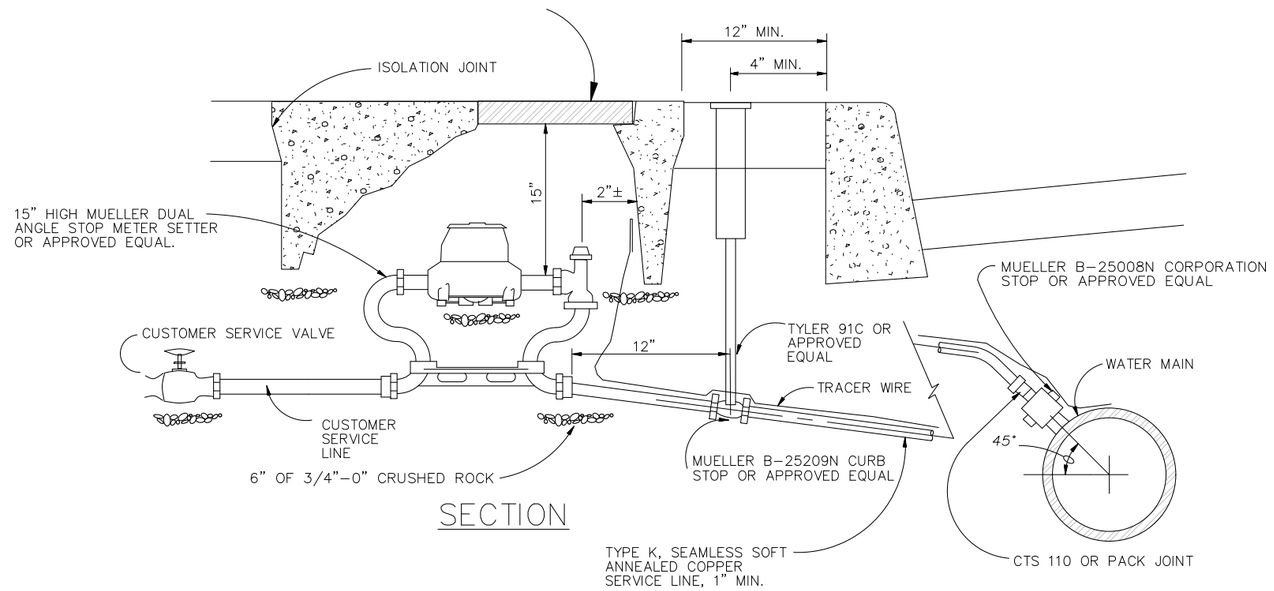
PLAN

1" AND SMALLER METERS:

12"X20"X24" AMORCAST METER BOX (P6000485X24 W/O MOUSEHOLES), AMORCAST COVER (A6000484DQ) WITH INSERT (SP-AA6000487 MAGNET 5X7 OPENING)

NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. MANUFACTURED METER SETTER SHALL BE USED FOR 3/4" TO 1" SERVICES.
3. SET CURB STOP BOX 4" MINIMUM BEHIND CURB OR SIDEWALK.
4. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS AND BOXES.
5. METER SHALL BE A BADGER M25 FOR $\frac{3}{4}$" and BADGER M55 for 1".
6. METER SHALL BE EQUIPPED WITH ITRON 100W ERT AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
7. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
8. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
9. SERVICE LINE AND FITTINGS SHALL BE 1" MIN. FROM MAIN TO SETTER, UNLESS OTHERWISE APPROVED.
10. SEE PROJECT PLANS FOR DETAILS NOT SHOWN.



SECTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

3/4" - 1"
WATER SERVICE CONNECTION

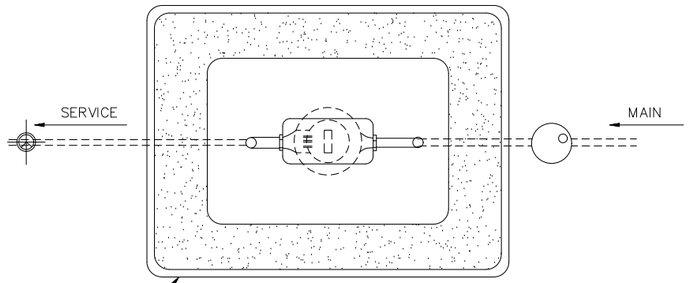
2024

REVISIONS	
DATE	DESCRIPTION

Effective Date: January 1, 2024- December 31, 2024

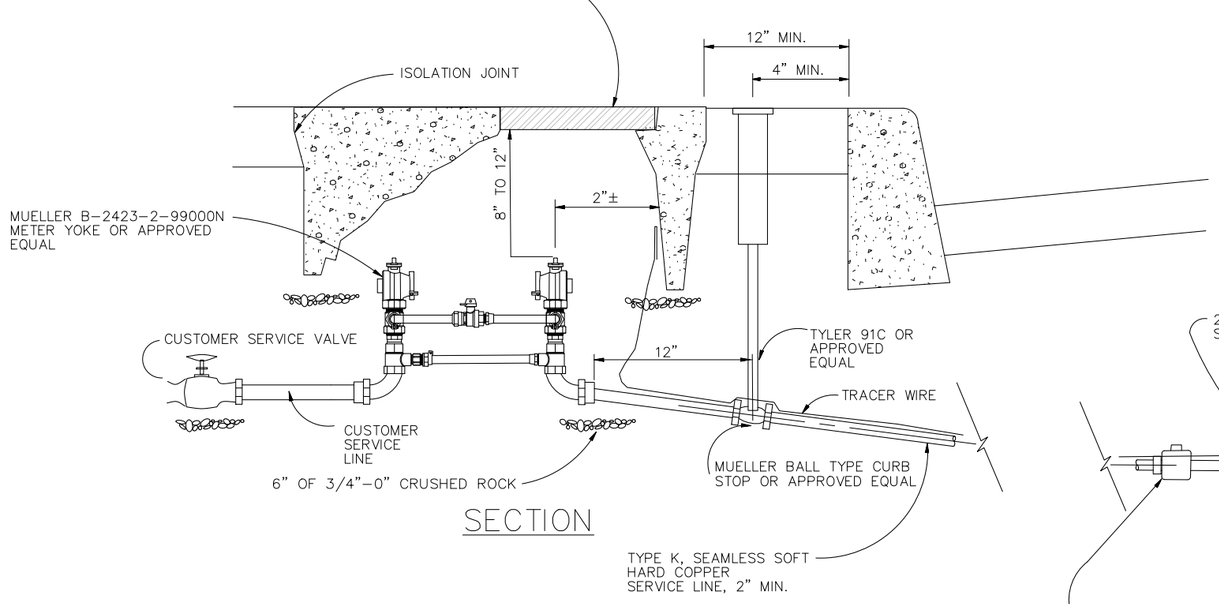
RD274

RD274

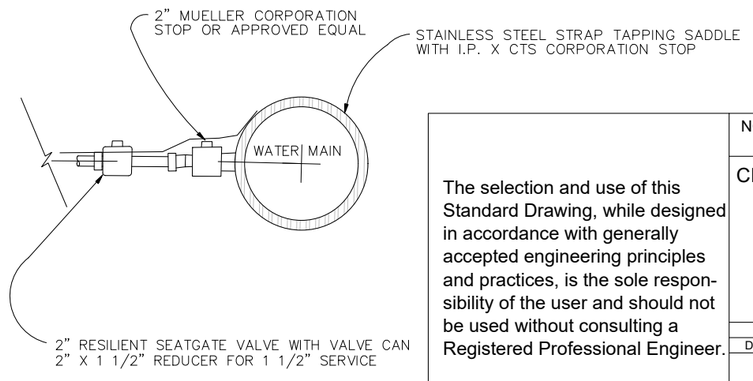


PLAN

17"X30"X22"AMORCAST METER BOX (P60001534X22 W/O MOUSEHOLES), AMORCAST COVER (A60001643DZ) WITH INSERT (SPA6000482 MAGNET 9X14 OPENING)



SECTION



NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. SET CURB STOP BOX 4" MINIMUM BEHIND CURB OR SIDEWALK.
3. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
4. METER SHALL BE BADGER M120 FOR 1 $\frac{1}{2}$", BADGER M170 FOR 2", AND GALLON READ.
5. METER SHALL BE EQUIPPED WITH ITRON 100W ERT AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
6. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
7. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
8. SEE PROJECT PLANS FOR DETAILS NOT SHOWN

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

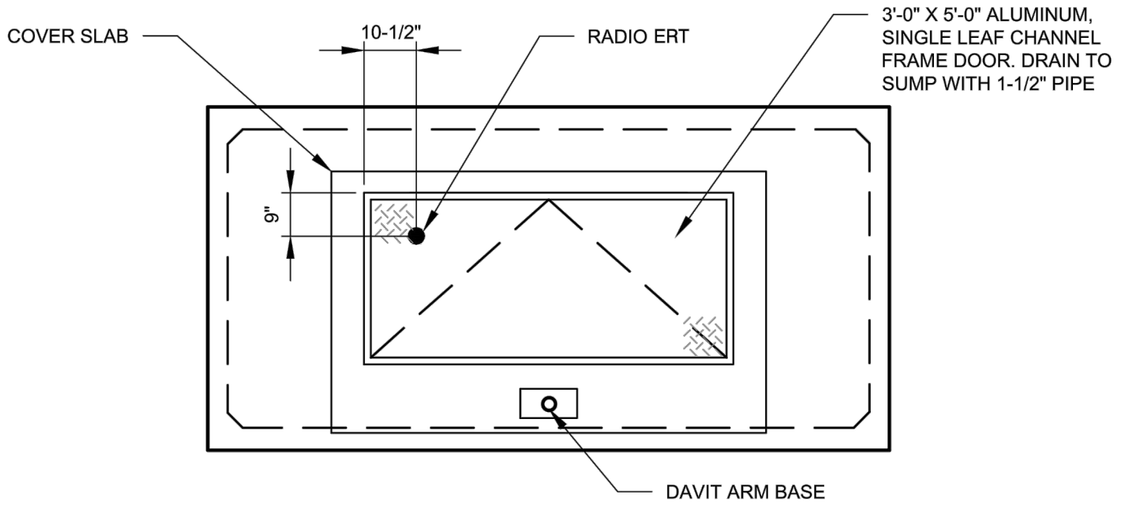
CITY OF THE DALLES STANDARD DRAWING

1 1/2" - 2" WATER SERVICE CONNECTION

2024

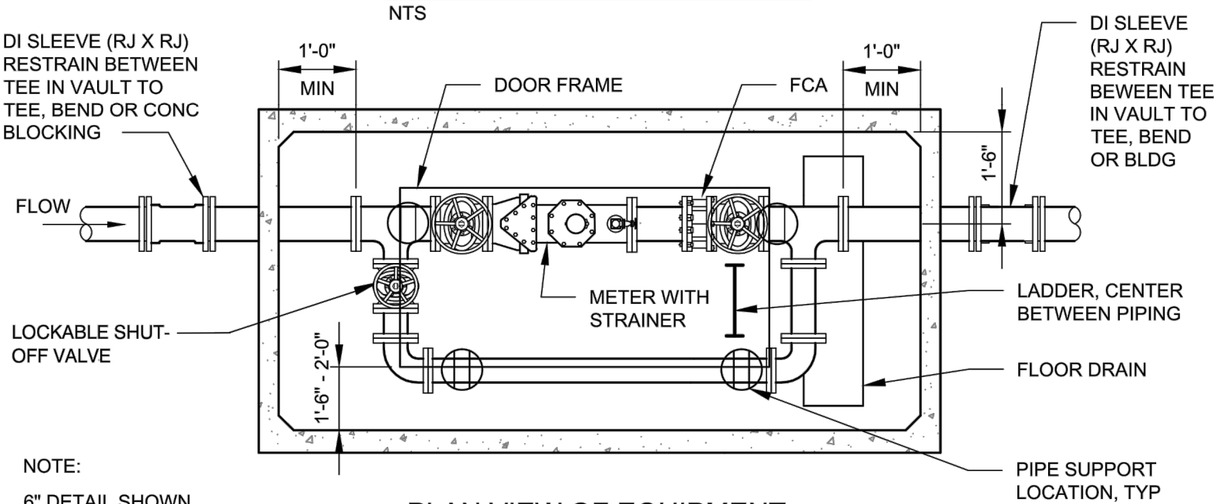
REVISIONS	
DATE	DESCRIPTION

RD275



PLAN VIEW WITH COVER SLAB

NTS



PLAN VIEW OF EQUIPMENT

NTS

VAULT, FITTINGS AND PIPING SIZING REQUIREMENTS						UTILITY VAULT NO. *
METER SIZE	BYPASS VALVES AND PIPING	BYPASS TEE (FL X FL)	MIN INSIDE VAULT DIM LEN	WIDTH	HT	
3"	3"	3" X 3"	10 FT	6 FT	6 FT	810 - LA
4"	4"	4" X 4"	10 FT	6 FT	6 FT	810 - LA
6"	4"	6" X 4"	12 FT	6 FT	6 FT	810 - LA

* OR APPROVED EQUAL

NOTES:

1. VAULT ACCESS HATCH SHALL BE DRILLED FOR INSTALLATION OF RADIO ERT.
2. METER SHALL BE OBTAINED BY THE CONTRACTOR FROM THE SUPPLIER AND DELIVERED TO CITY MAINTENANCE OPERATIONS CENTER FOR STORAGE UNTIL INSTALLATION. WHEN METER APPLICATION IS APPROVED FOR INSTALLATION, INCLUDING PAYMENT OF CONNECTION FEES, THE CONTRACTOR SHALL RETRIEVE AND INSTALL METER.
3. A GRAVITY VAULT DRAIN (DI) SHALL BE CONNECTED TO STORM SYSTEM AS SHOWN ON THE DRAWINGS.
4. PAINT ALL EXPOSED PIPING AND FITTINGS INSIDE VAULT, EXCEPT METER BODY.
5. CENTER PIPING UNDER HATCH OPENING.
6. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
7. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY.
8. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
9. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
10. METER SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN $\frac{1}{10}$ OF A GALLON.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

WATER METER PLAN VIEW
3", 4" & 6" METER DETAILS

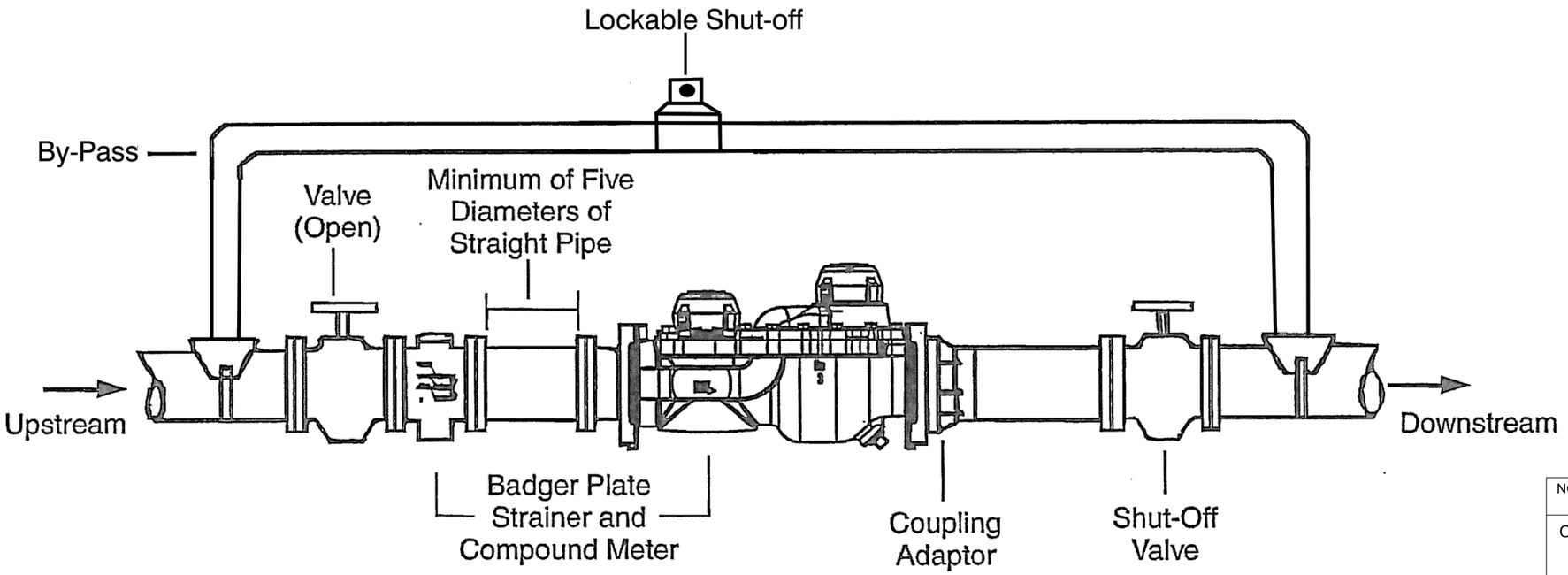
2024

DATE	REVISIONS DESCRIPTION

Effective Date: January 1, 2024 - December 31, 2024 RD276

NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
3. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY AND GALLON READ.
4. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
5. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
6. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
7. BYPASS SHALL BE IN SAME VAULT AS METER.



The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

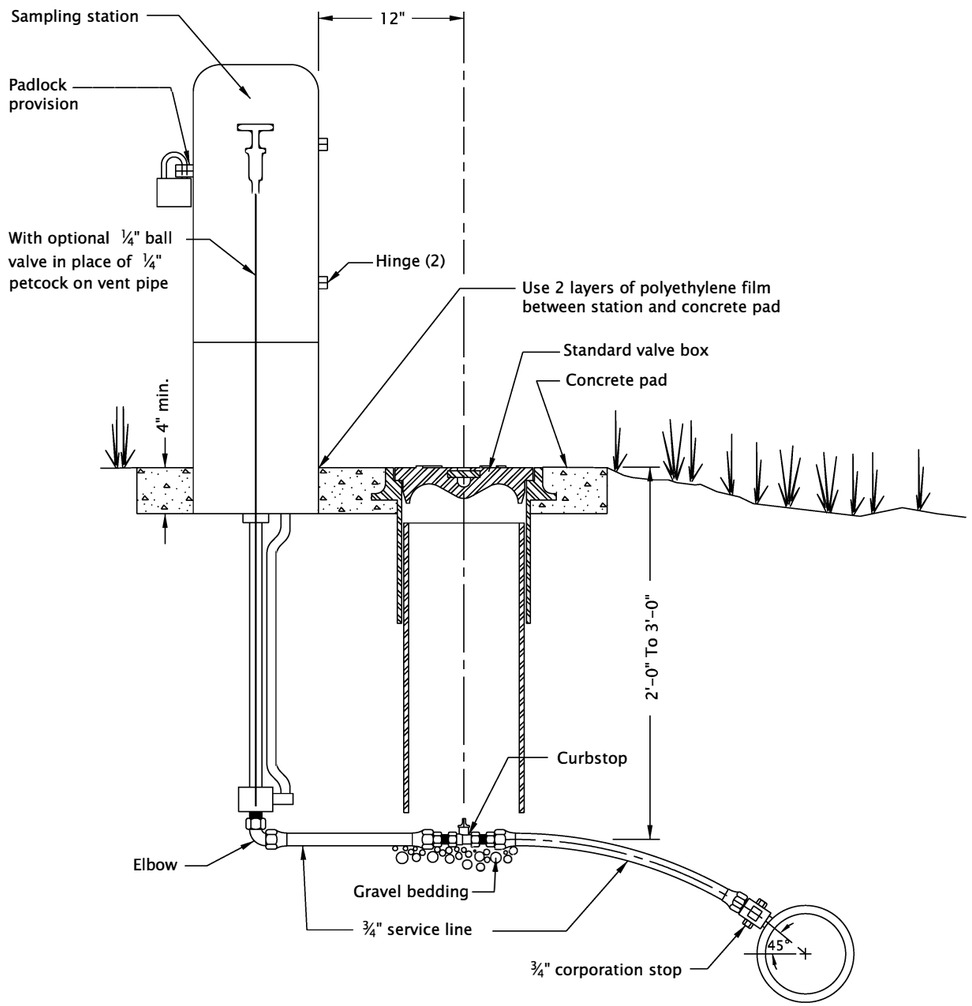
NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

COMPOUND WATER METER

2024

REVISIONS	
DATE	DESCRIPTION



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Provide insulation and additional depth when specified for freeze protection.
2. Sampling Station shall be a Kupferle Eclipse #88 —SS or approved equal.
2. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

WATER SAMPLING STATION

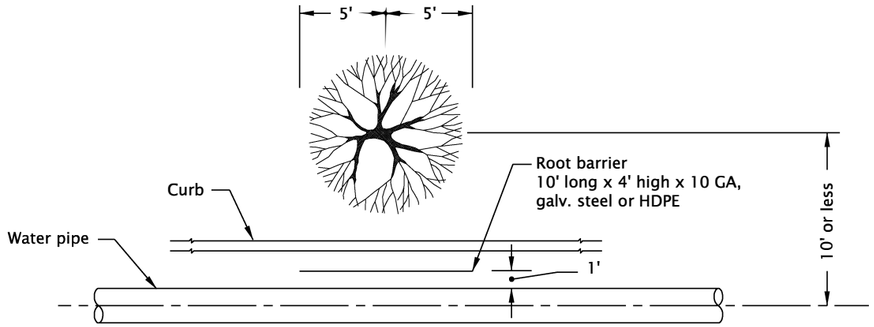
2024

DATE	REVISION DESCRIPTION

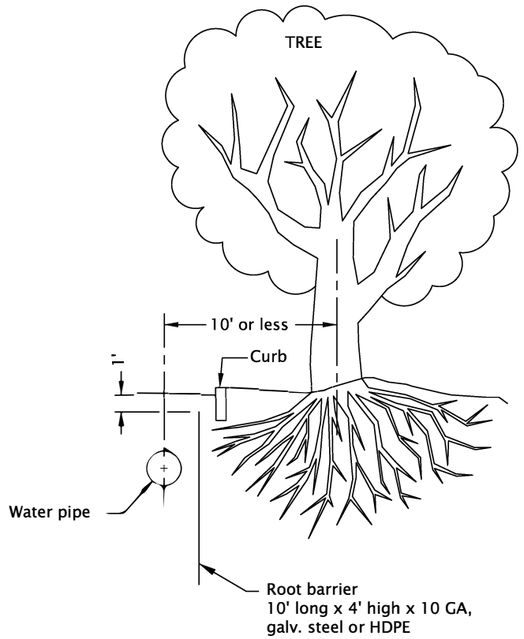
rd282.dgn 20-JUL-2020

RD282

Effective Date: **January 1, 2024 - December 31, 2024**



PLAN



SECTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Where existing parkway trees have been root pruned, install continuous, lineal root barrier adjacent to the pipe.
2. Root sealer shall be applied to all cut root areas which are larger that 2" in diameter. The sealer shall be applied as soon as practical after the cuts have been made. Root sealer shall be approved by the engineer at least 48 hours in advance of the pruning operation.
3. Root barriers shall be fabricated from a high density, high impact plastic or hot dipped galvanized steel.
4. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

ROOT BARRIER

2024

DATE	REVISION DESCRIPTION

RD286

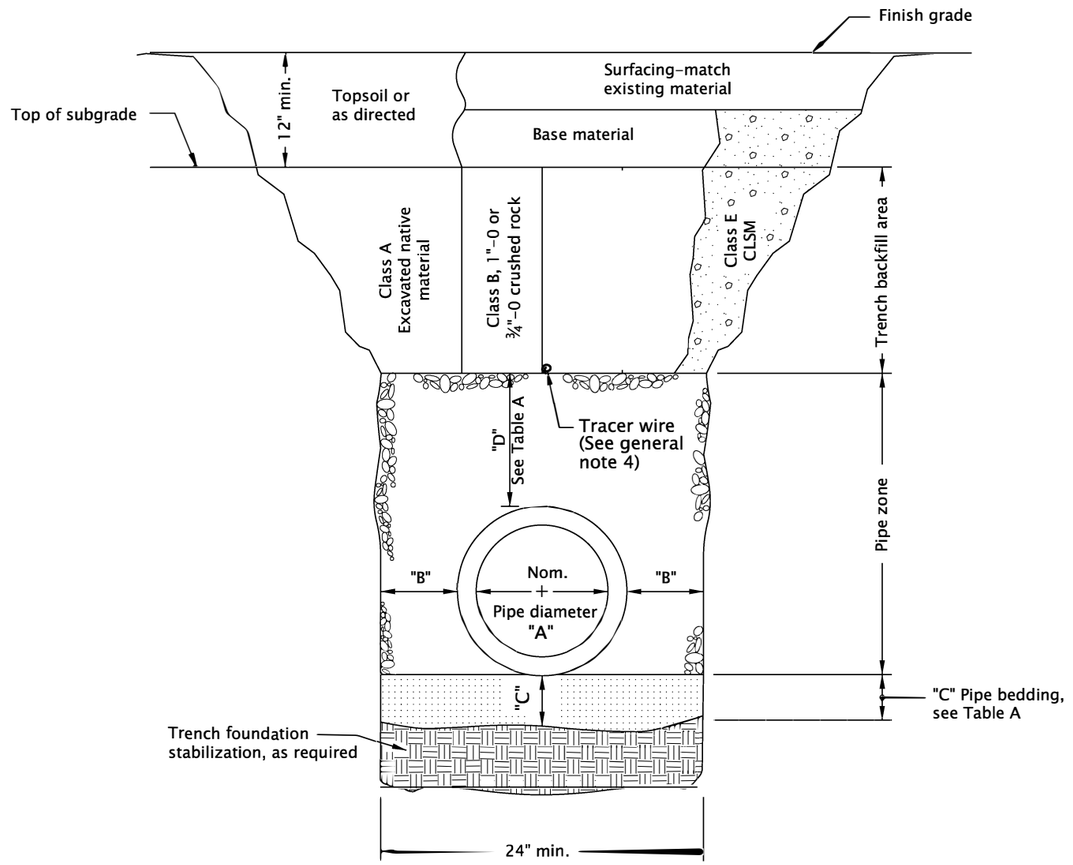
rd286.dgn 20-JUL-2020

rd300.dgn 20-JUL-2020

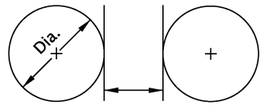
TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS



DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

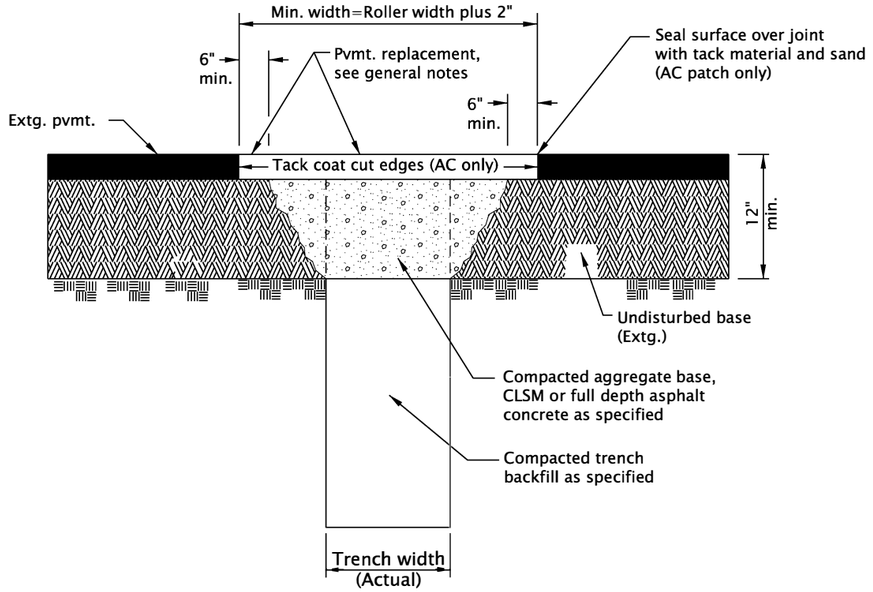
CITY OF THE DALLES STANDARD DRAWINGS

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

2024

DATE	REVISION DESCRIPTION

RD300



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All existing AC or PCC pavement shall be sawcut prior to repaving.
2. Concrete pavement shall be replaced with concrete to a minimum thickness of 8" or to the thickness of removed pavement, whichever is greater.
3. For joining new concrete to existing concrete, see contract plans for sepecific details.
4. Place AC mix minimum thkn. of 6" or the thkn. of the removed pavement, whichever is greater. Compact as specified.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

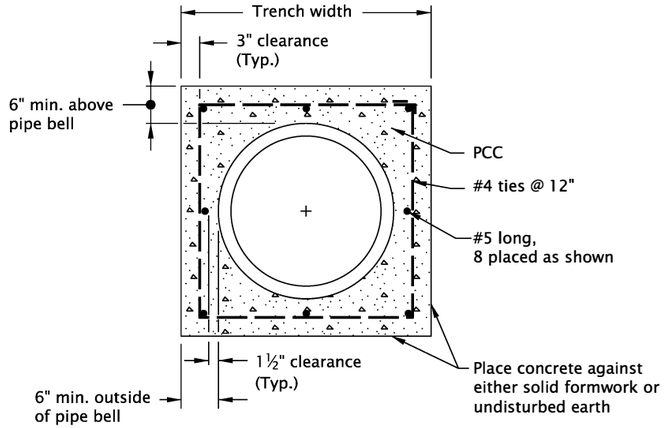
CITY OF THE DALLES STANDARD DRAWINGS

STREET CUT

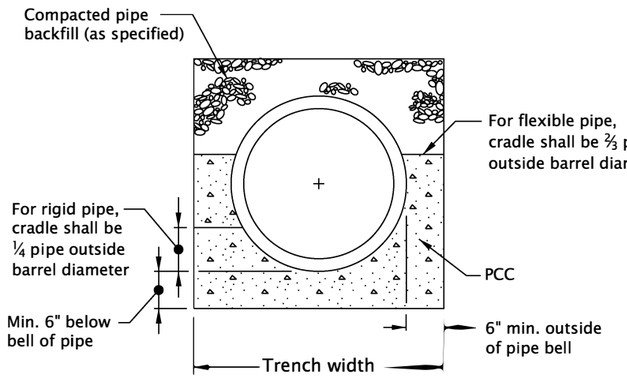
2024

DATE	REVISION DESCRIPTION

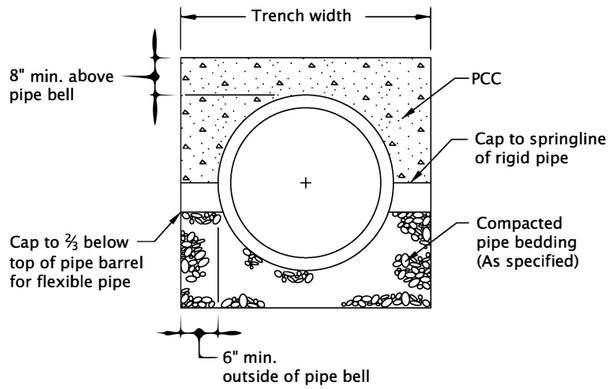
RD302



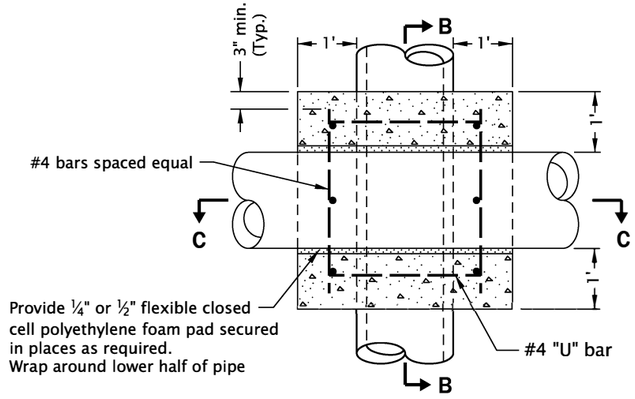
CONCRETE ENCASEMENT DETAIL



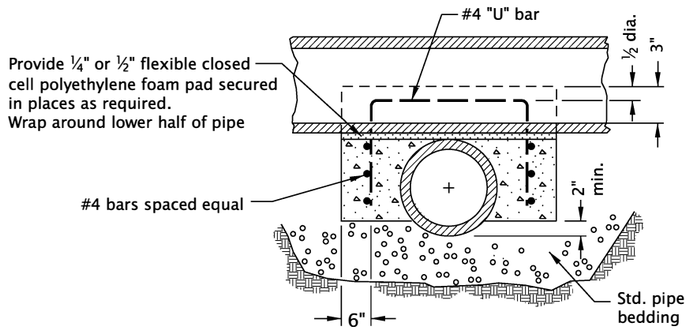
CRADLE DETAIL



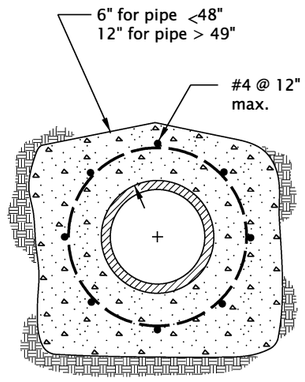
CAP DETAIL



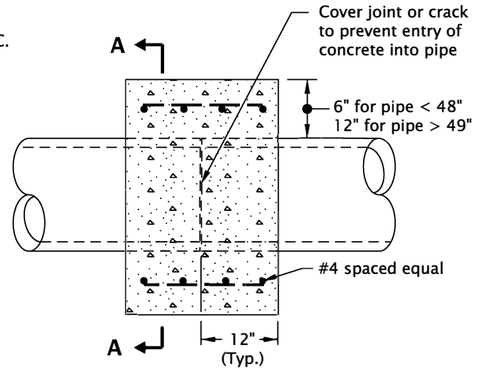
PLAN



SECTION C-C



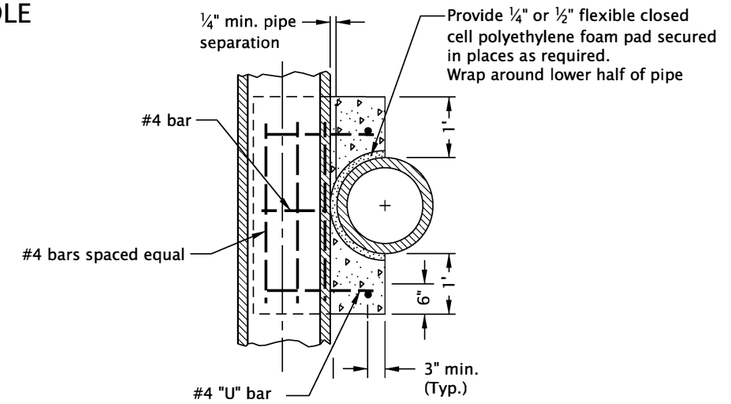
SECTION A-A



PLAN

REINFORCED CONCRETE COLLAR

SADDLE



SECTION B-B

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. End all reinforcing 3" clear of ground, forms or top surface, unless otherwise shown.
3. Trowel finish top surface of saddle, and cradle.
4. Reinforcement shall be # 4 vertical & horizontal bars as shown.
5. See Std. Dwg. RD300 for trench backfill, bedding, etc.
6. See Std. Dwg. RD336 for tracer wire details (When required).
7. Pipe over 72" diameter are structures, and are not applicable to this drawing.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE ENCASEMENT, CRADLE, AND CAP DETAILS

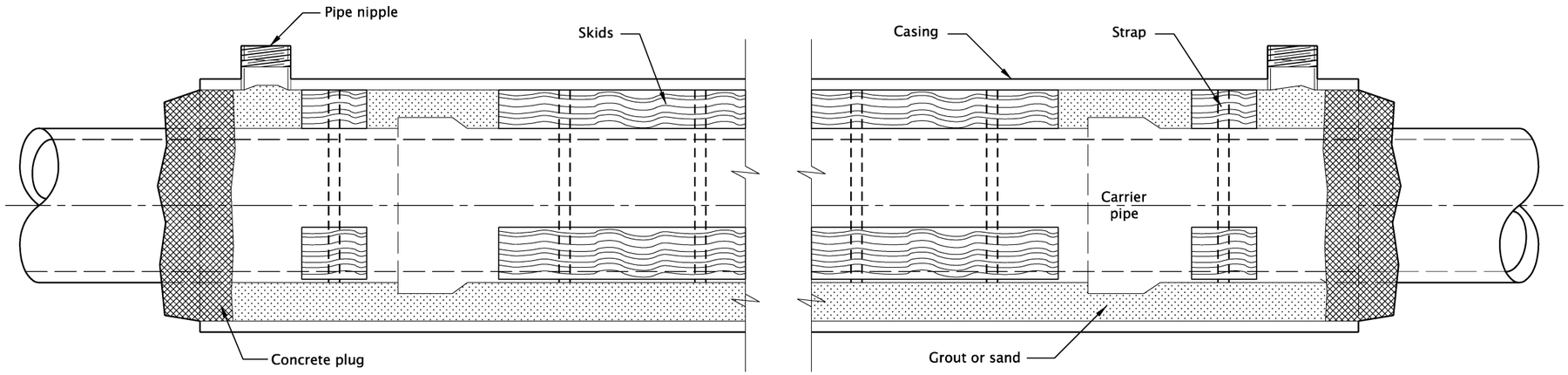
2022

DATE	REVISION DESCRIPTION

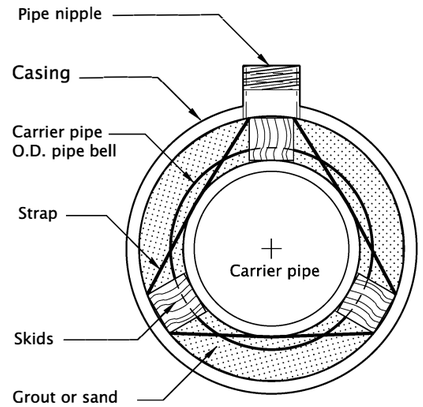
rd306.dgn 20-JUL-2020

RD306

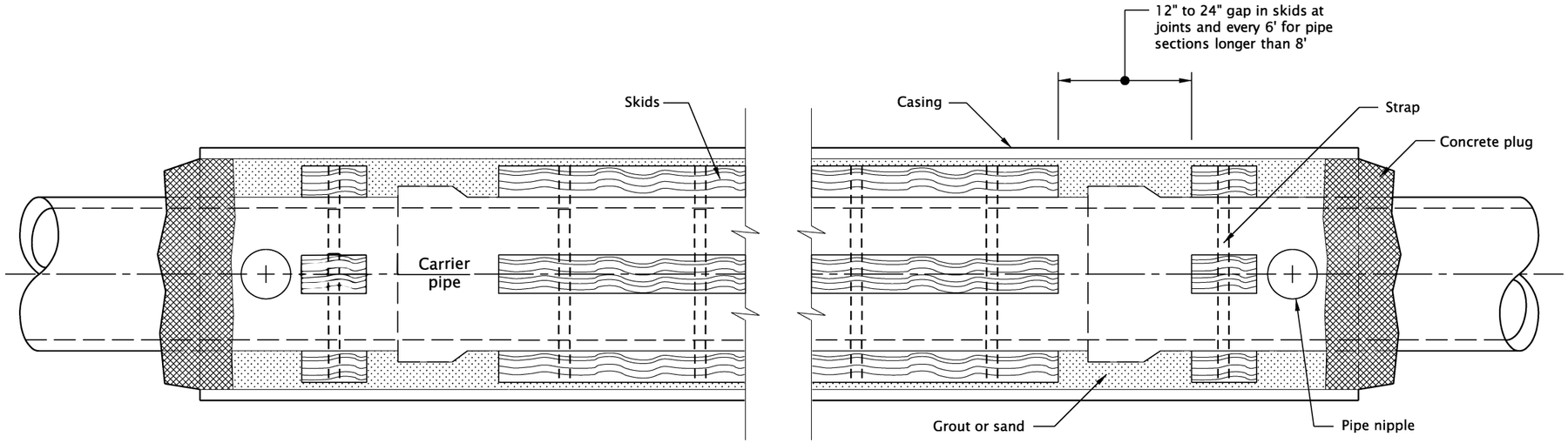
Effective Date: **Jan**uary 1, 202**4** - **D**ecember 31, 202**4**



ELEVATION



END VIEW



PLAN

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Type, size, and location(s) of casing, carrier pipe, skids, straps, pipe nipples, etc., are as required by the Engineer to meet site conditions.
2. Plug ends of casing with commercial grade concrete.
3. Block carrier pipe down or flood to resist flotation when filling annular space.
4. Provide pipe nipple at top of casing at each end of casing, for filling and verifing filling operation. Size to accomodate volume of grout or sand and site conditions (4" diameter minimum).
5. Strap pressure treated wood or manufactured skids to pipe, 3 skids per pipe section. Skids to support full length of pipe except bell.
6. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A

SDR DATE 07-JAN-2013

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

BORE CASING DETAIL

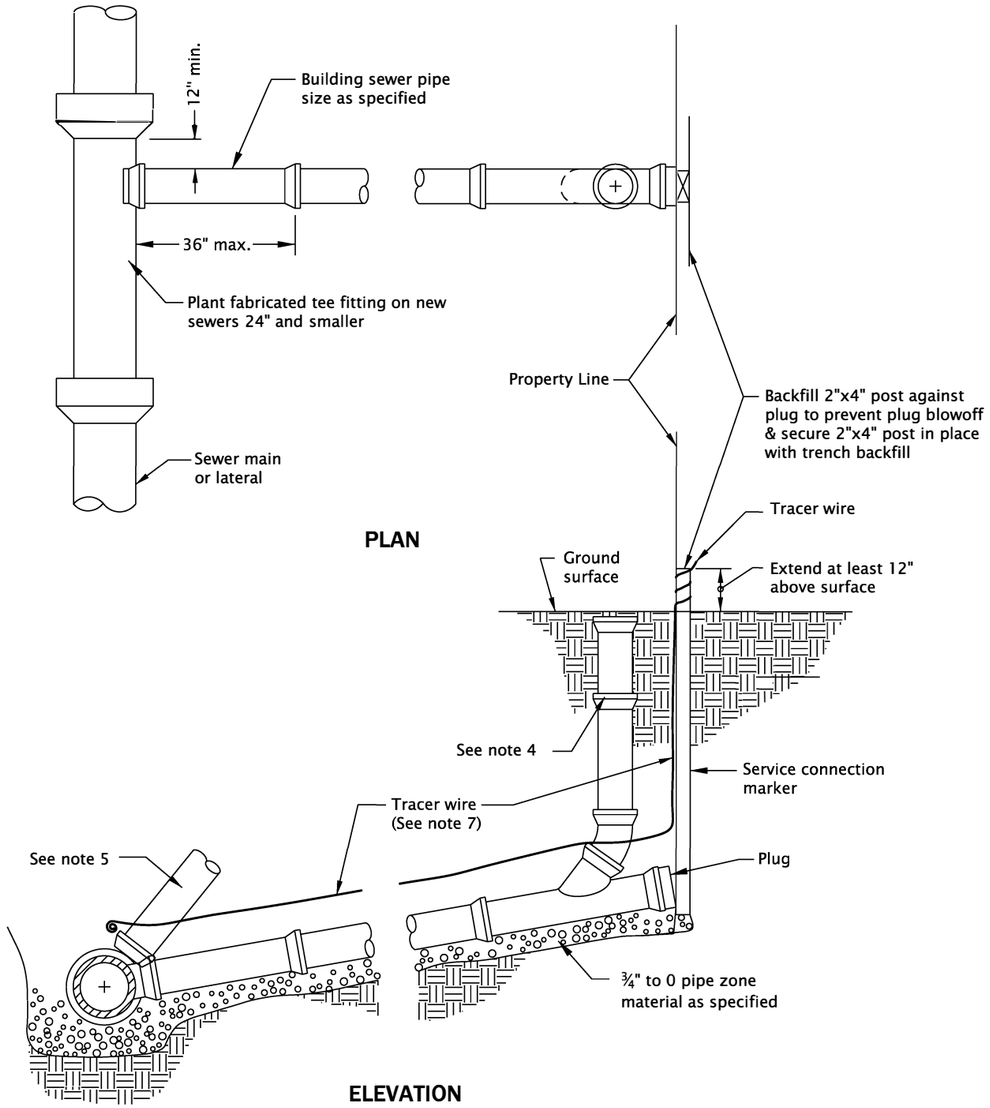
2024

DATE	REVISION DESCRIPTION

rd308.dgn 20-JUL-2020

RD308

rd310.dgn 20-JUL-2020



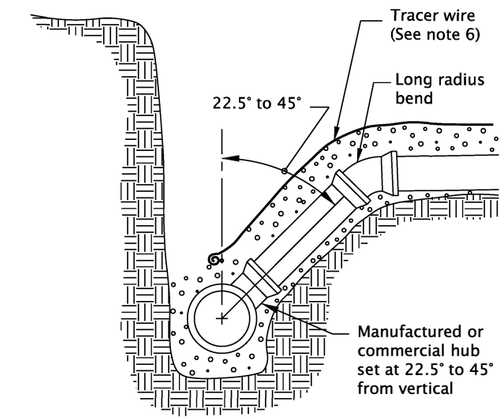
PLAN

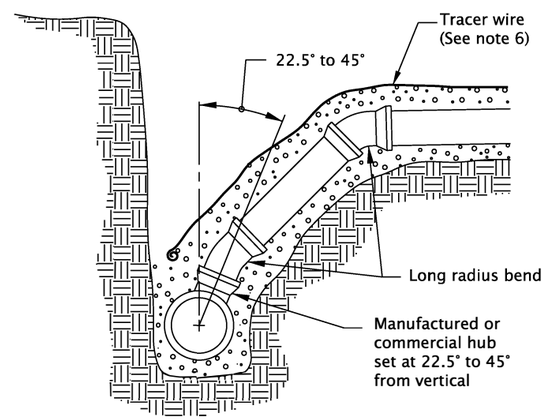
ELEVATION

SHALLOW TRENCH SERVICE

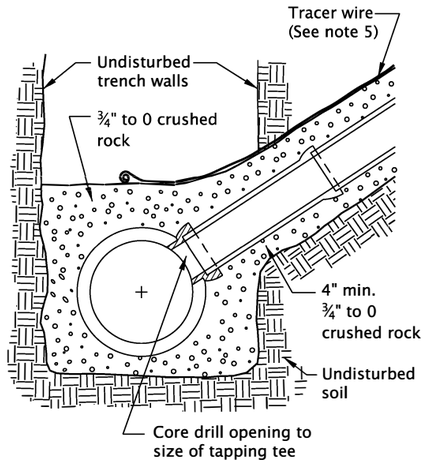
NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. Minimum depth at right of way or easement line shall be 4'. Depths less than 2 feet shall have concrete cap per RD306.
3. Marker posts and blocking shall be treated wood. Post shall be 2"x4" fir. Post to extend 12" minimum above finish grade and exposed area shall be painted green.
4. A cleanout shall be installed per RD362 at property line or where located by Engineer.
5. Lay building sewer at max. 45° from horizontal to achieve required depth at propertly line when minimum slope results in excessive depth.
6. For bedding and backfill see Std. Dwg. RD300.
7. See Std. Dwg. RD336 for tracer wire details.





DEEP TRENCH SERVICE



WASTEWATER SERVICE TAP

NOTES:

1. Seat tee in place to fit outside surface of carrier pipe and to form watertight seal.
2. Type of tapping tee shall be watertight and conform to standard specification requirements.
3. Tapping tee shall not protrude into pipe except as approved by the engineer.
4. For bedding and backfill, see Std. Dwg. RD300.
5. See Std. Dwg. RD336 for tracer wire details.

NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. For details not shown see shallow trench service connection drawing.
3. Vertical trench walls are required. If it is not possible to maintain vertical trench walls, use alternate connection method to maintain 6" maximum distance between riser pipe and trench walls. Replace all excavated or disturbed material with full depth granular backfill compacted to 95% relative density.
4. Where deep connection is at an angle less than 45° from vertical, ductile iron pipe and fittings should be used.
5. For bedding and backfill, see Std. Dwg. RD300.
6. See Std. Dwg. RD336 for tracer wire details.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

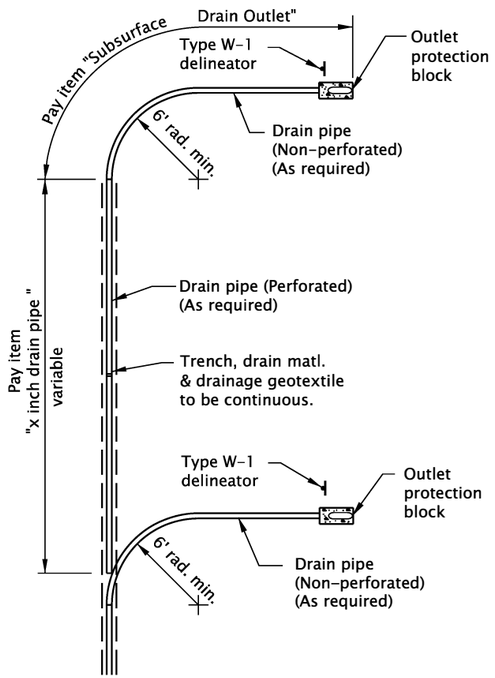
CITY OF THE DALLES STANDARD DRAWINGS

SHALLOW/DEEP TRENCH SERVICE CONNECTION, BLOCKING AND MARKERS

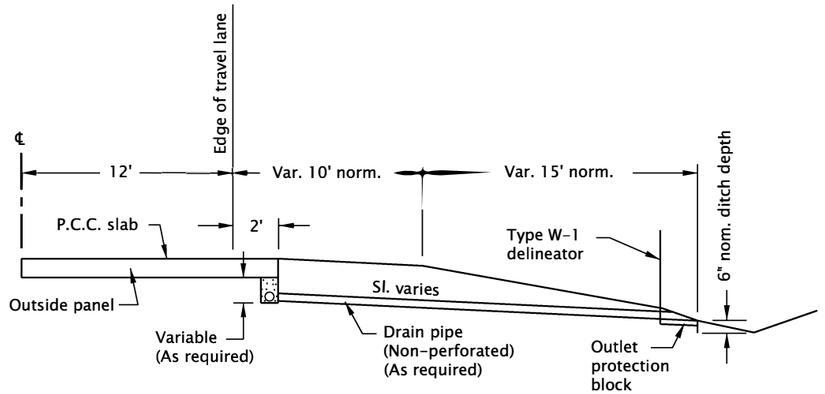
2024

DATE	REVISION DESCRIPTION

RD310

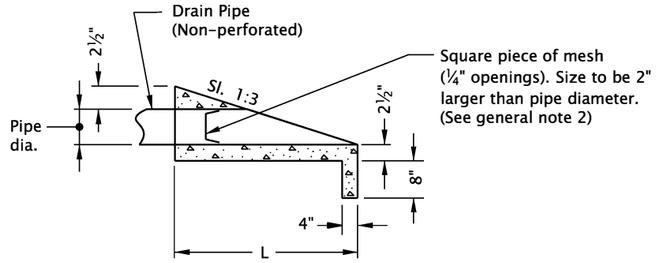


PLAN



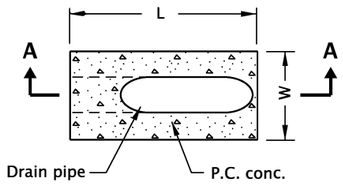
ELEVATION

SUBSURFACE DRAIN OUTLET



SECTION A-A

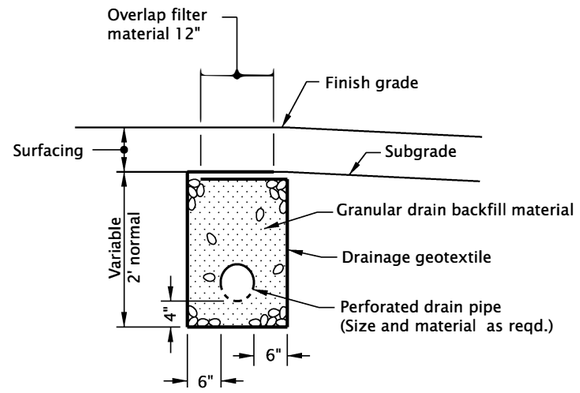
PIPE DIA. (in)	L NOM. (in)	W NOM. (in)
3	24	12
4	24	12
6	33	14
8	42	16



PLAN

OUTLET PROTECTION BLOCK

TYPE 1 SUBSURFACE DRAIN INSTALLATION



SECTION

SUBSURFACE DRAIN DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. In guard rail areas extend outlet protection block to back of guard rail post min.
2. Mesh for rodent control to be galvanized wire or approved equal.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

SUBSURFACE DRAIN

2024

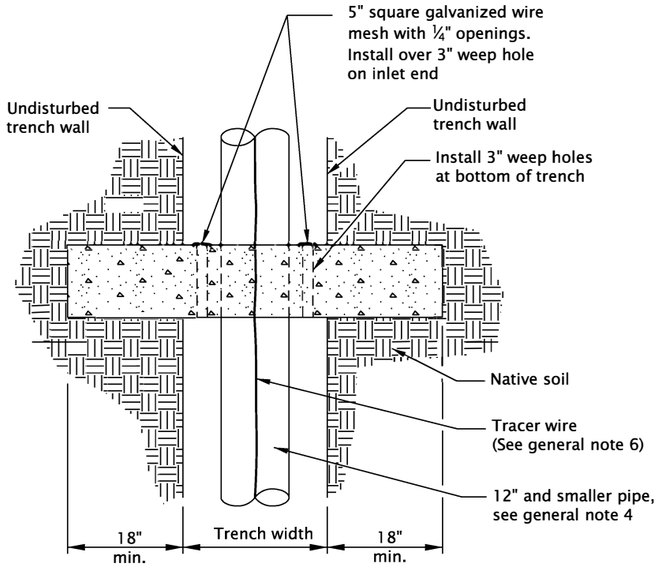
DATE	REVISION DESCRIPTION

rd312.dgn 20-JUL-2020

RD312

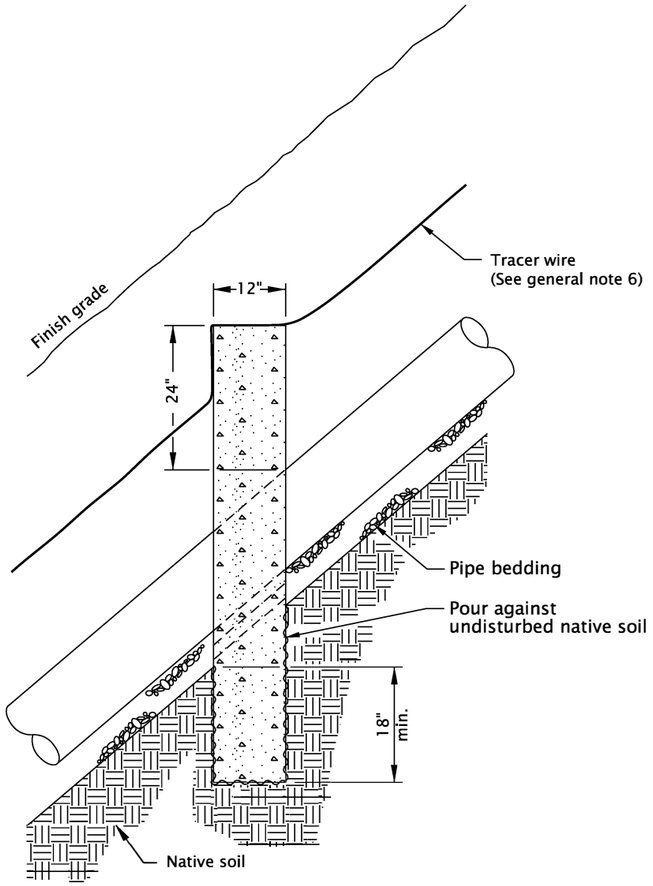
Effective Date: January 1, 2024- December 31, 2024

rd332.dgn 20-JUL-2020



PLAN

Metal pipe requires polymeric coating when using slope anchors made with concrete.



ELEVATION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Concrete pipe anchors shall be constructed using forms when sewers, storm drains and other pipelines are constructed with slopes 20% or greater. Remove forms prior to backfilling trench.

2. All concrete shall be commercial grade concrete.

3. Center to center max. spacing of concrete pipe anchors shall be:

SLOPE	SPACING (on slope)
20-34%	35'
35-50%	25'
50+ %	15' or concrete encasement

4. Dimensions for embedment for pipes larger than 12" shall be approved by the engineer.

5. See Std. Dwgs. RD300 & RD304 for pipe installation details.

6. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A

SDR DATE 12-JAN-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

PIPE SLOPE ANCHORS - CONCRETE

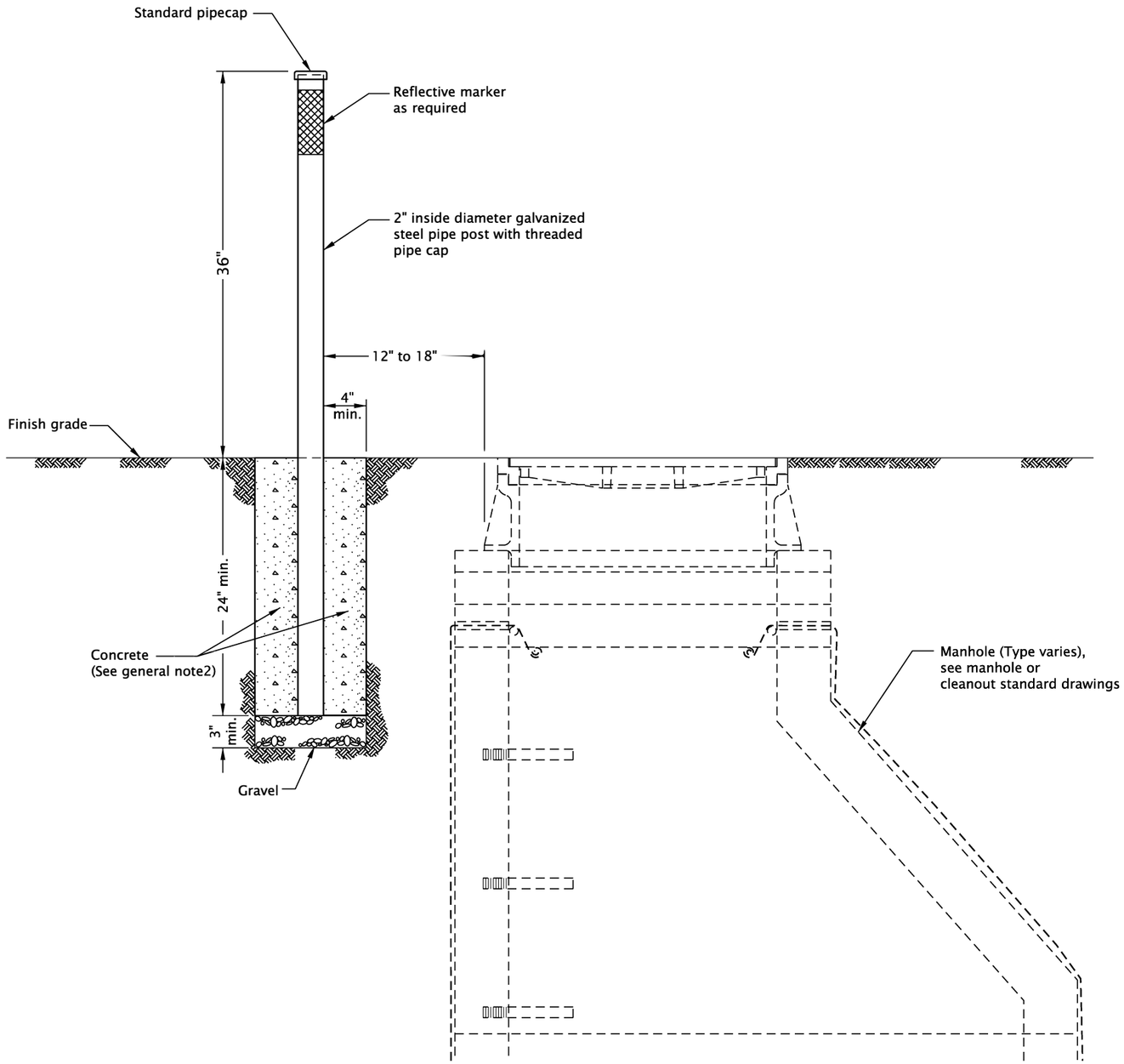
2024

DATE	REVISION DESCRIPTION

RD332

Effective Date: January 1, 2024 - December 31, 2024

RD332



LOCATOR POST AT MANHOLE OR CLEANOUT

AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE	
RED	Electric power lines, cables or conduits, and lighting cables.
YELLOW	Gas, oil, steam, petroleum or other hazardous liquid or gaseous materials.
ORANGE	Communications, cable TV, alarm or signal lines, cables, or conduits.
BLUE	Water, irrigation, and slurry lines.
GREEN	Sewers, storm sewer facilities, or other drain lines.
WHITE	Proposed excavation
PINK	Temporary survey markings.
PURPLE	Reclaimed water, irrigation and slurry lines.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. As directed the locator post shall be located on the straight side of manhole cone.
2. Steel posts shall be set in commercial grade concrete.
3. Posts located in areas subject to traffic shall be flexible, durable plastic.
4. Flexible, durable plastic marker shall be a PEXCO Flexi Guide FG 542 with a FG 95 Plastic Anchor, or approved equal.
5. Posts shall be painted color as directed.

CALC. BOOK NO. N/A

SDR DATE 16-JUL-2018

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

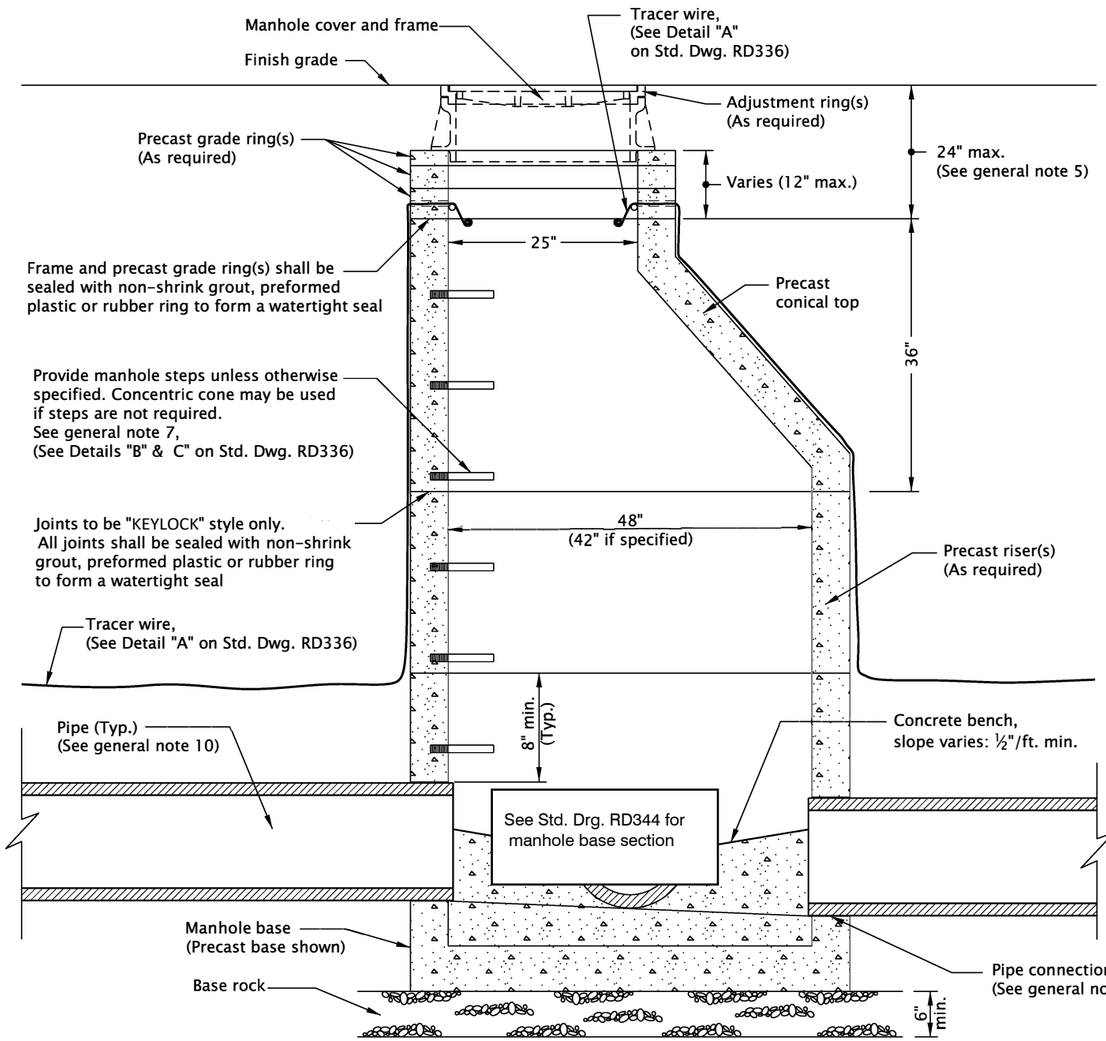
LOCATOR POST

2024

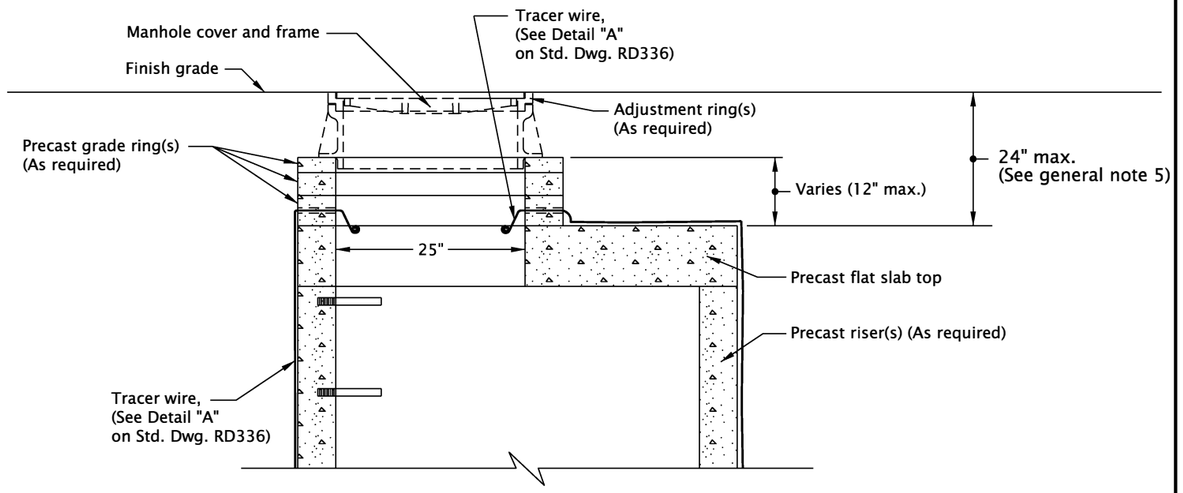
DATE	REVISION DESCRIPTION

rd334.dgn 20-JUL-2020

RD334



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

STANDARD STORM SEWER MANHOLE

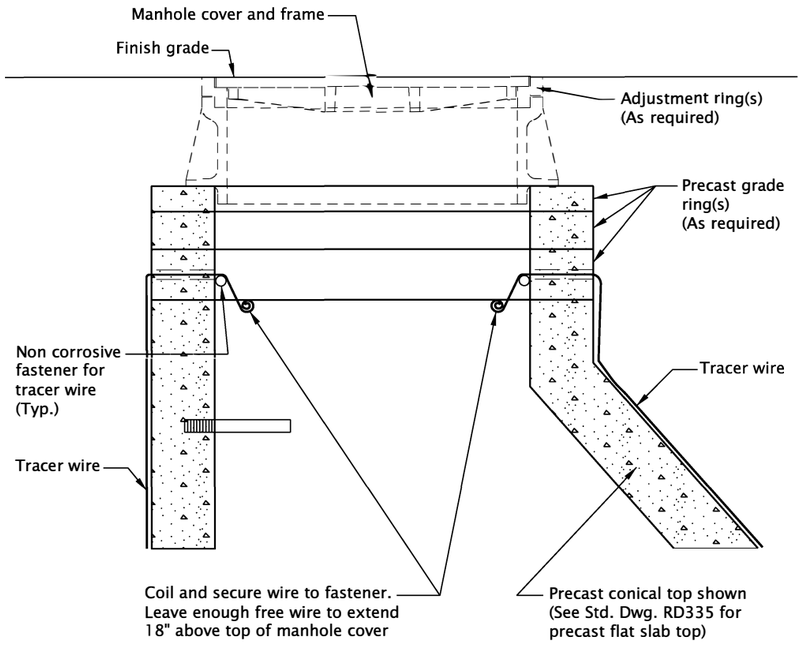
2024

DATE	REVISION DESCRIPTION

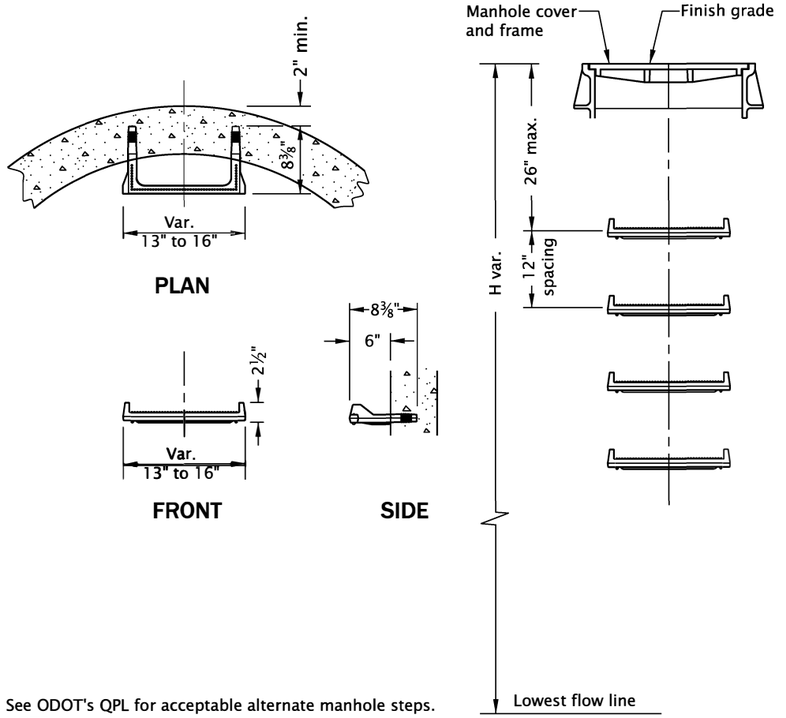
rd335.dgn 20-JUL-2020

RD335

Effective Date: January 1, 2024- December 31, 2024

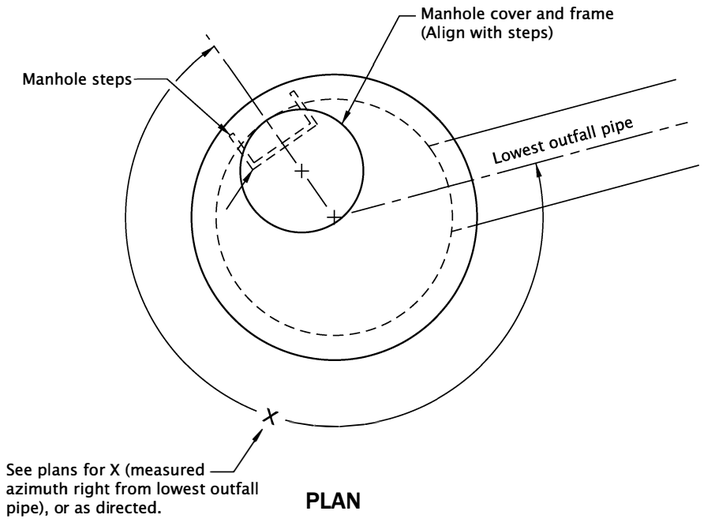


DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)



DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
   Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps shall conform to requirements of ASTM C478.
   When H=42" or less omit steps.
   See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Dwg. RD335 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 16-JAN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

STANDARD MANHOLE DETAILS

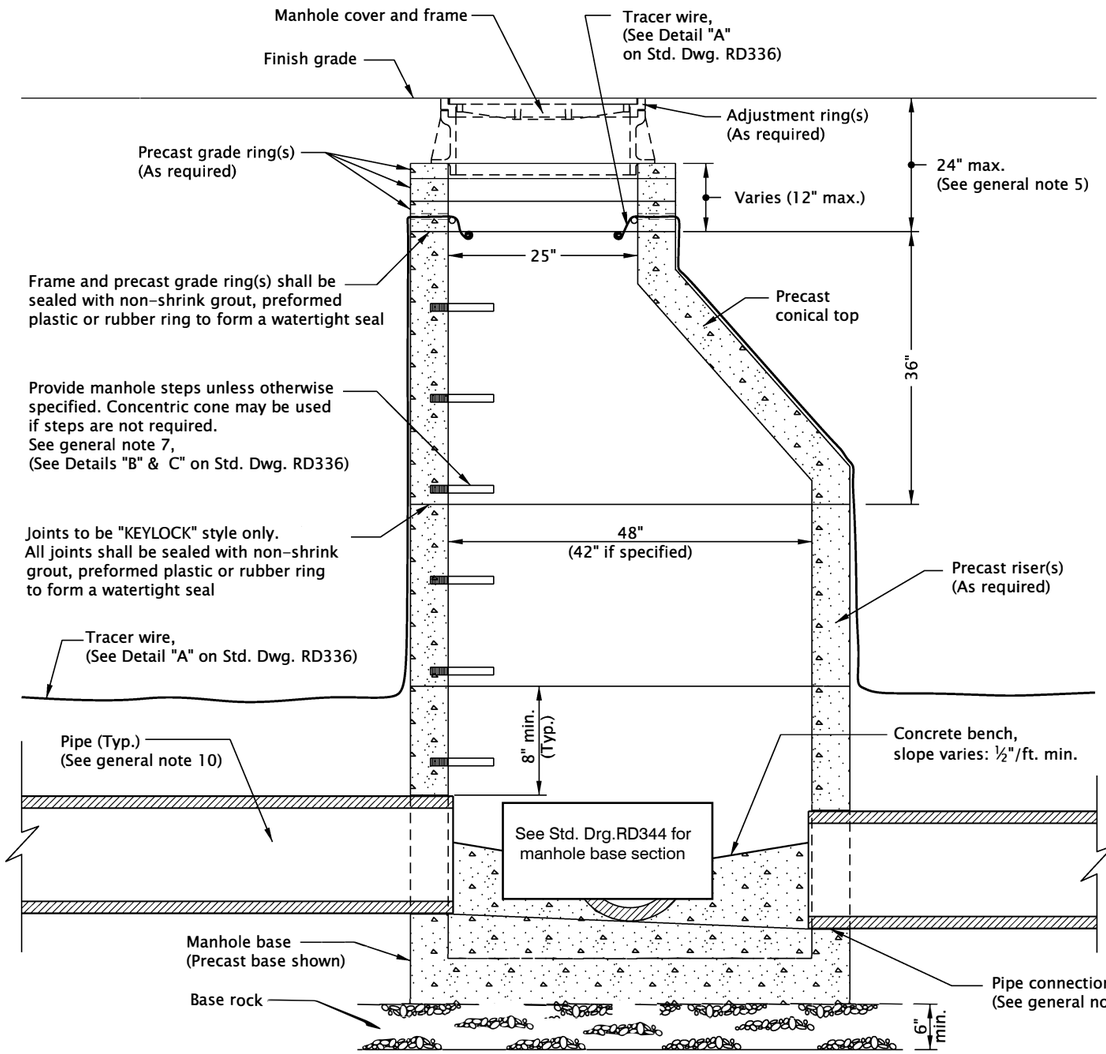
2024

DATE	REVISION DESCRIPTION

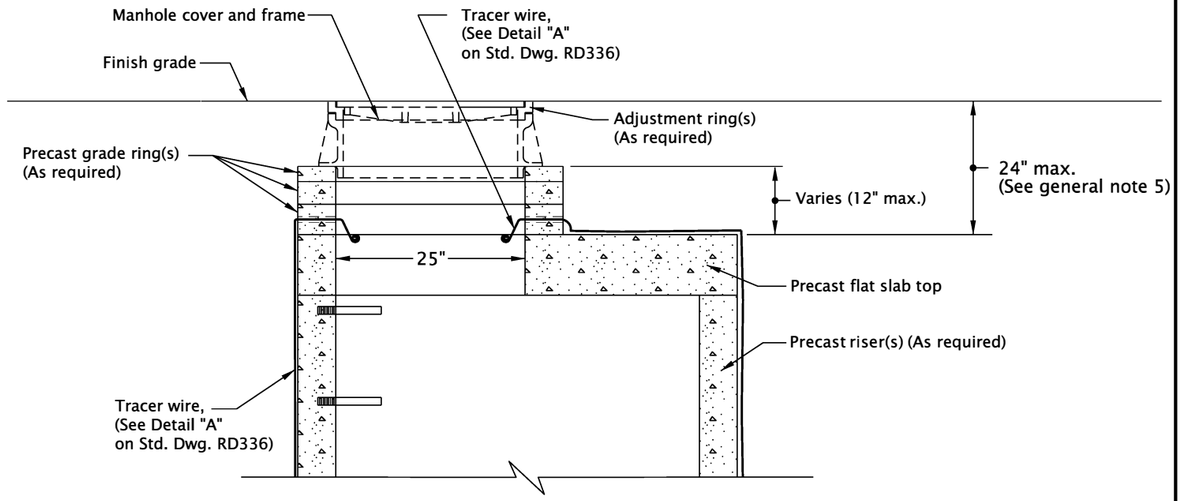
RD336

rd336.dgn 20-JUL-2020

Effective Date: January 1, 2024- December 31, 2024



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
13. This detail limited to interior drop of 24".
    See Std. Dwgs. RD350 or RD352 for drop manhole details for drops in excess of 24".

CALC. BOOK NO. N/A

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

STANDARD SANITARY SEWER MANHOLE

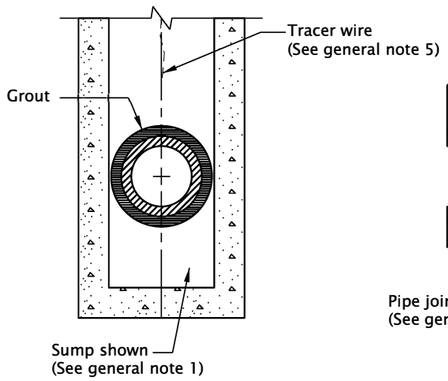
2024

DATE	REVISION DESCRIPTION

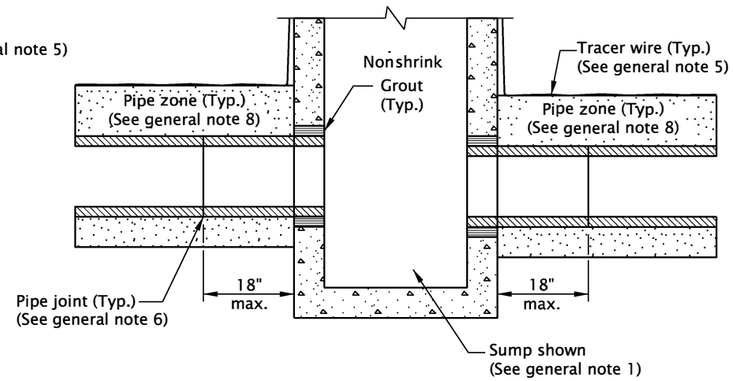
rd338.dgn 20-JUL-2020

RD338

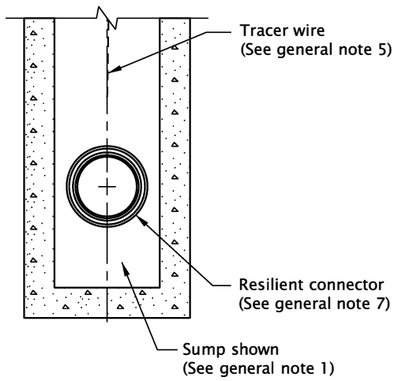
Effective Date: January 1, 2024- December 31, 2024



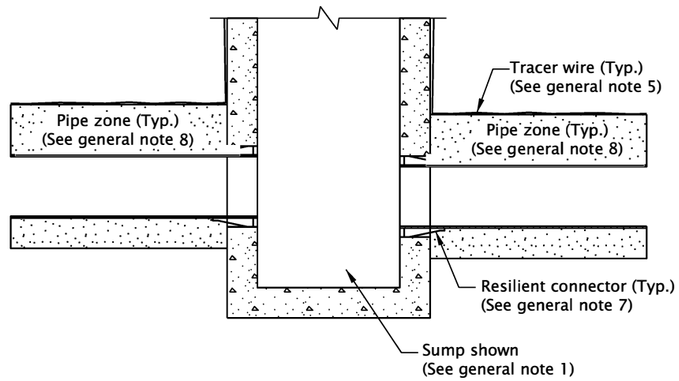
SECTION B-B



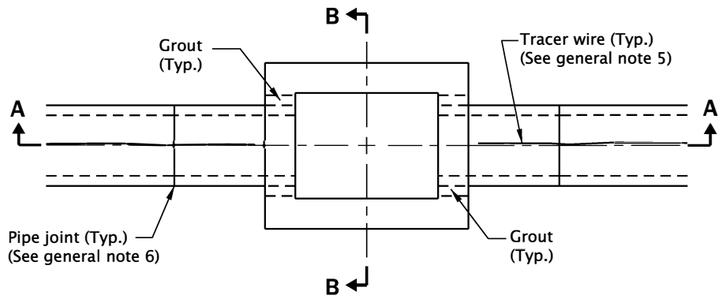
SECTION A-A



SECTION D-D

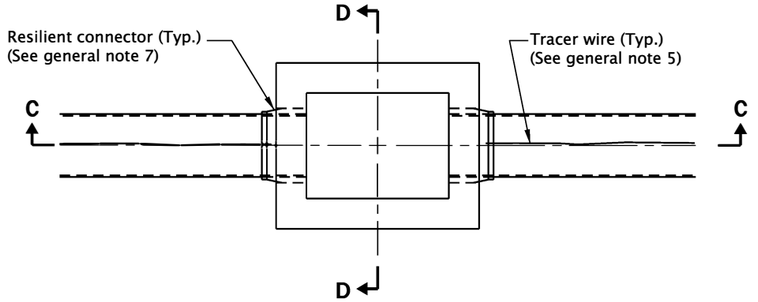


SECTION C-C



PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Maximum pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate.
   See Std. Dwg. RD336 for tracer wire details.
6. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
7. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

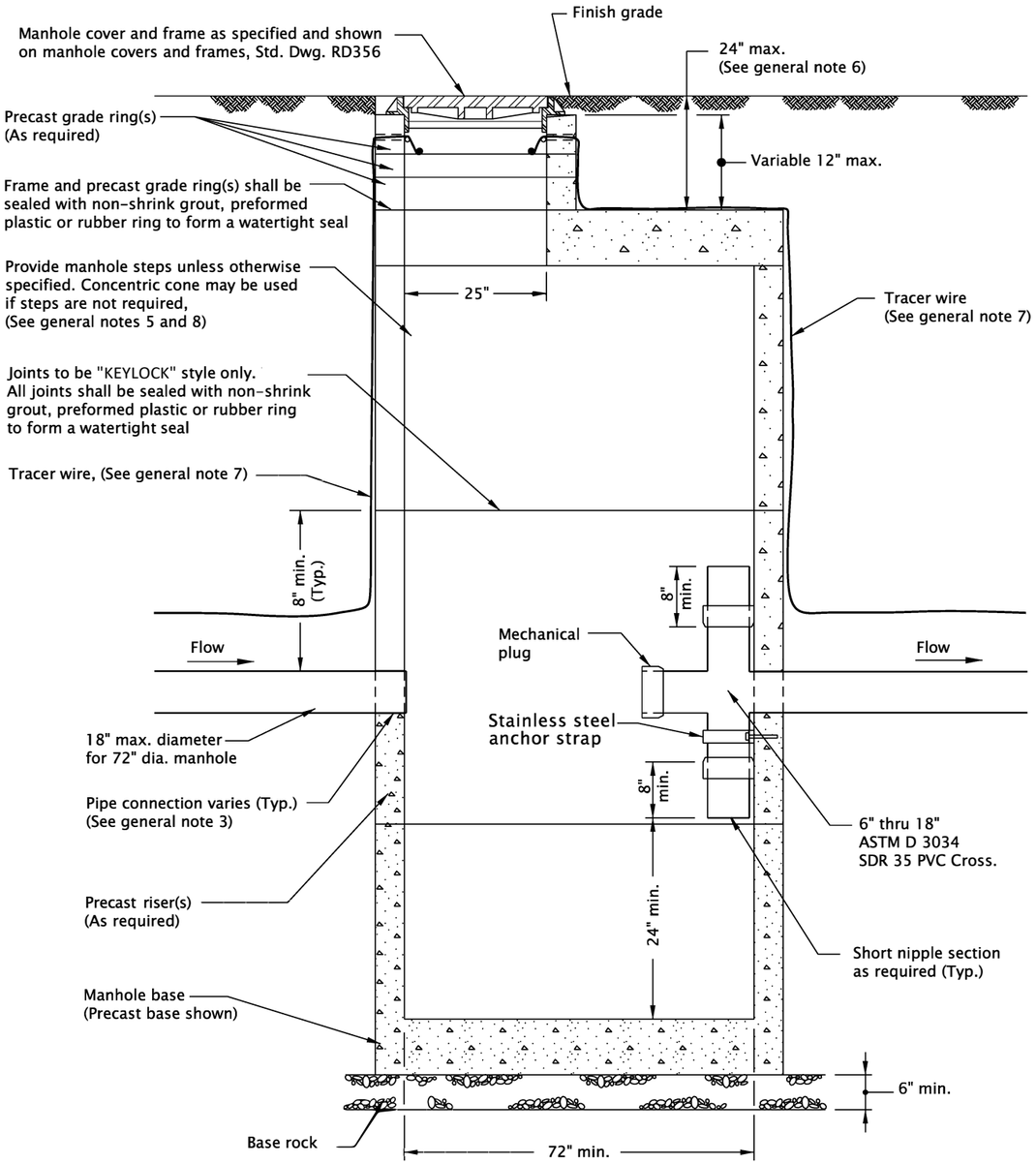
CITY OF THE DALLES STANDARD DRAWINGS

PIPE TO STRUCTURE CONNECTIONS

2024

DATE	REVISION DESCRIPTION
07-2021	REVISED NOTES

rd339.dgn 19-JUL-2021



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 72".
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section, for details not shown.
5. See Std. Dwg. RD336 for manhole steps details, and flat slab top orientation.
6. Adjust 24" max.
7. See Std. Dwg. RD336 for tracer wire details.
8. See Std. Dwg. RD336 for manhole steps.
9. Max. pipe diameter varies with pipe material.
10. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

SDR DATE 16-JAN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

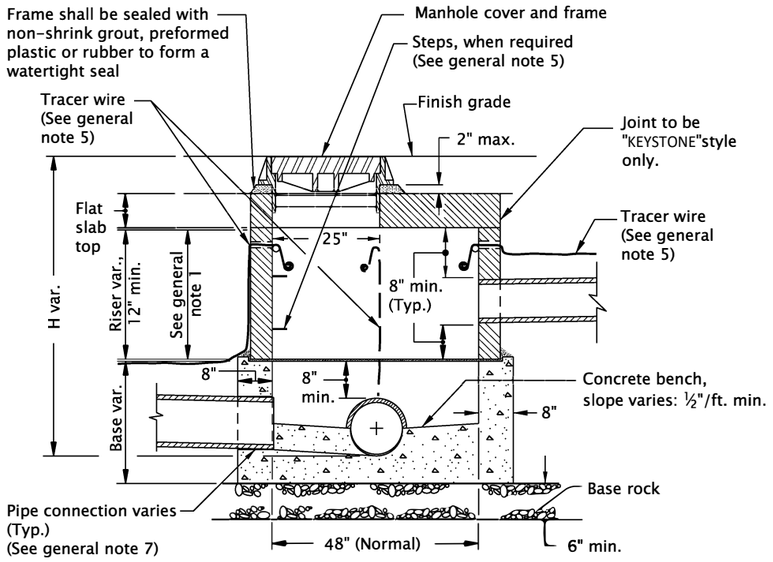
CITY OF THE DALLES STANDARD DRAWINGS

STORM SEWER POLLUTION CONTROL MANHOLE

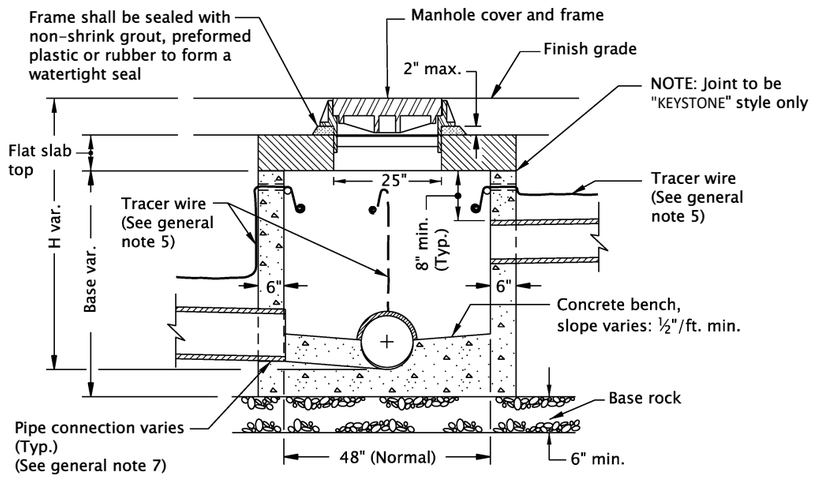
2024

DATE	REVISION DESCRIPTION

RD340



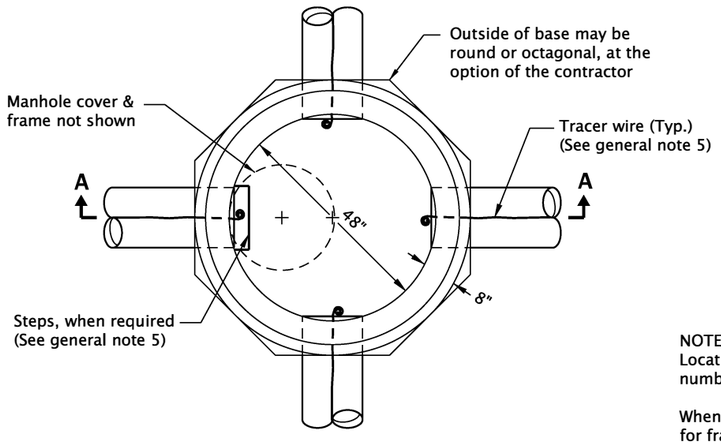
SECTION A-A
(Base, Riser & Flat Slab Top)



SECTION B-B
(Base, Riser & Flat Slab Top)

LEGEND
(See general note 3)

- Cast-in-Place concrete
- Precast concrete
- 1: 2 cement mortar
- Sewer pipe

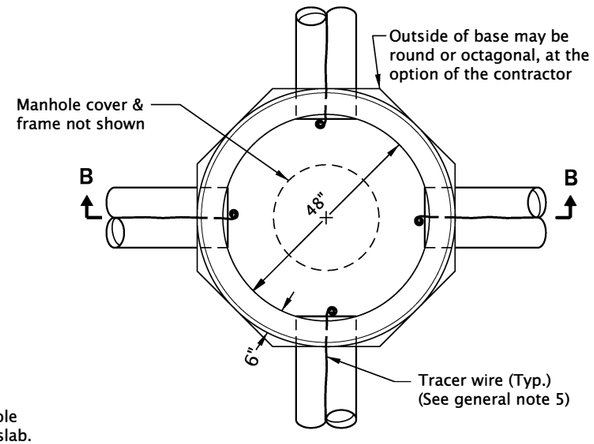


TOP VIEW
(Base, Riser & Flat Slab Top)

NOTES:
Location, elevation, and number of pipe(s) varies.

When H=42" or less make hole for frame in center of cover slab.

When H=42" or less omit steps.



TOP VIEW
(Base & Flat Slab Top)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Minimum length if laterals or connections are inserted: outside diameter of pipe + 17".
2. Use Section B-B when length of riser becomes less than minimum shown.
3. Base may be precast or cast-in-place.
4. All precast products shall conform to the requirements of ASTM C478.
5. See Std. Dwg. RD336 for details not shown.
6. See Std. Dwg. RD344 for manhole base section.
7. See Std. Dwg. RD345 for pipe to manhole connections.
8. See Std. Dwg. RD356 for manhole covers and frames.
9. All concrete shall be commercial grade concrete.
10. Max. pipe diameter varies with pipe material.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

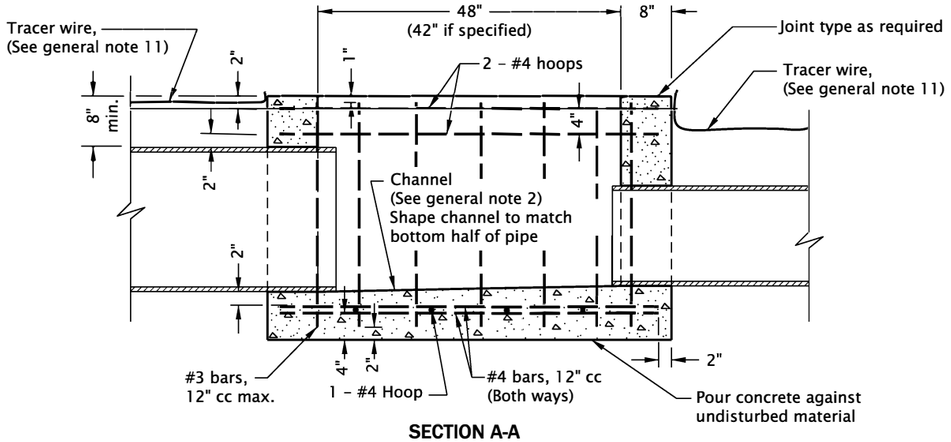
SHALLOW MANHOLES

2024

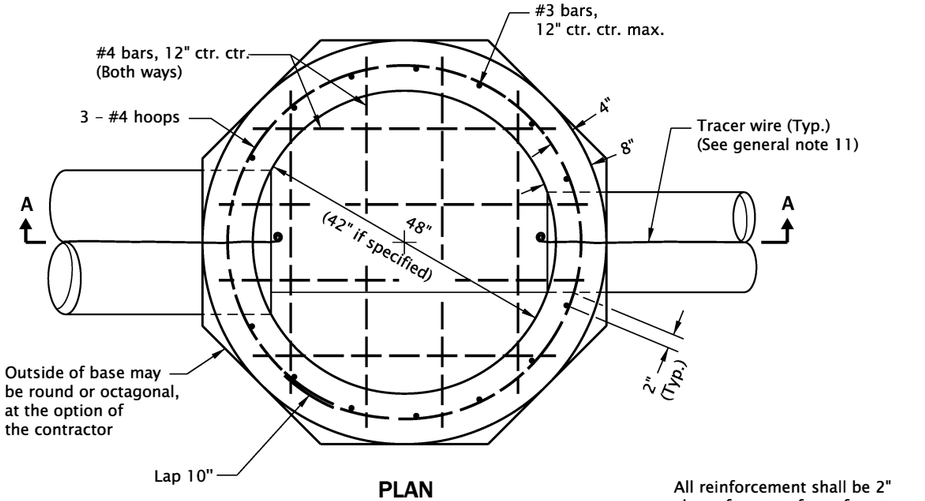
DATE	REVISION DESCRIPTION

rd342.dgn 20-JUL-2020

RD342



SECTION A-A

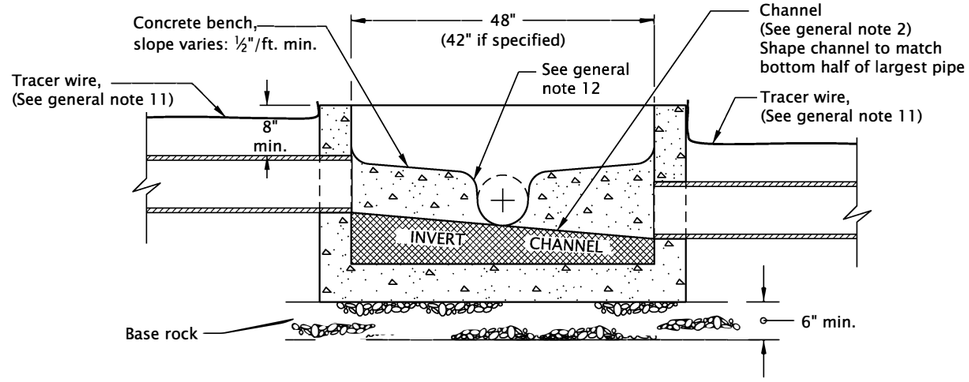


PLAN

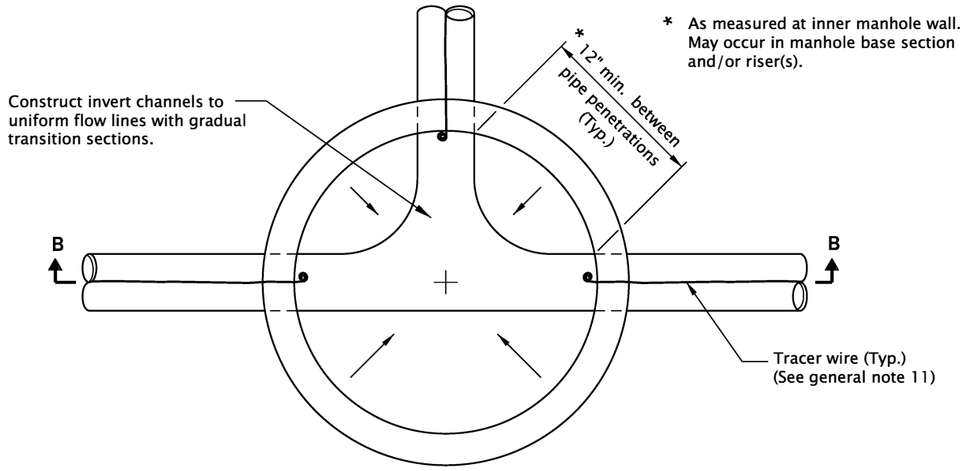
All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.

CAST IN PLACE MANHOLE BASE

(For invert channel details, see precast option at right)



SECTION B-B



* As measured at inner manhole wall. May occur in manhole base section and/or riser(s).

PLAN

PRECAST MANHOLE BASE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
3. Bases may be precast or cast in place.
4. Max. pipe diameter varies with pipe material.
5. Use on 42" and 48" diameter manhole.
6. Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All precast products shall conform to the requirements of ASTM C478.
9. See Std. Dwg. RD345 for pipe to manhole connections.
10. See Std. Dwg. RD336 for manhole steps details.
11. See Std. Dwg. RD336 for tracer wire details.
12. At spring line of pipe, extend channel up to crown line on 12:1 batter.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

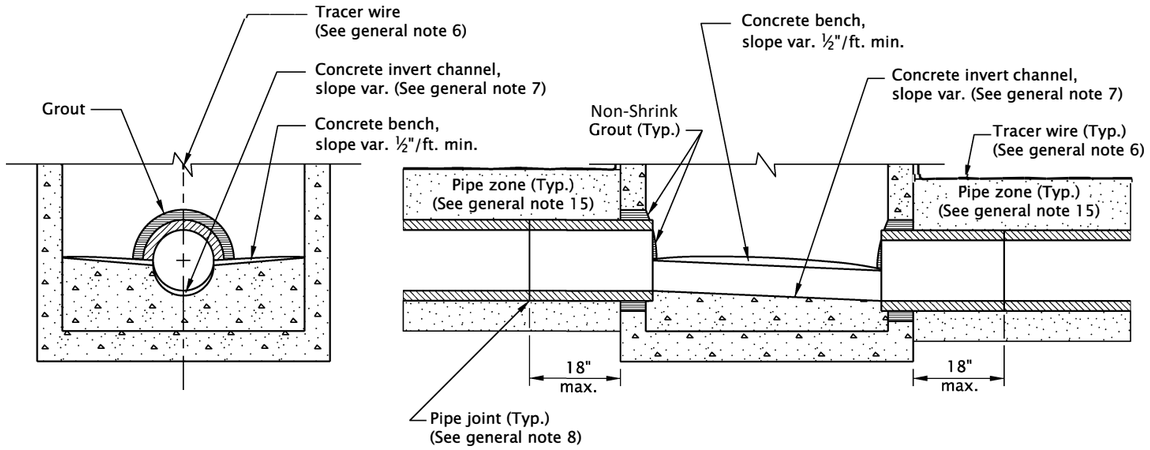
STANDARD MANHOLE BASE SECTION

2024

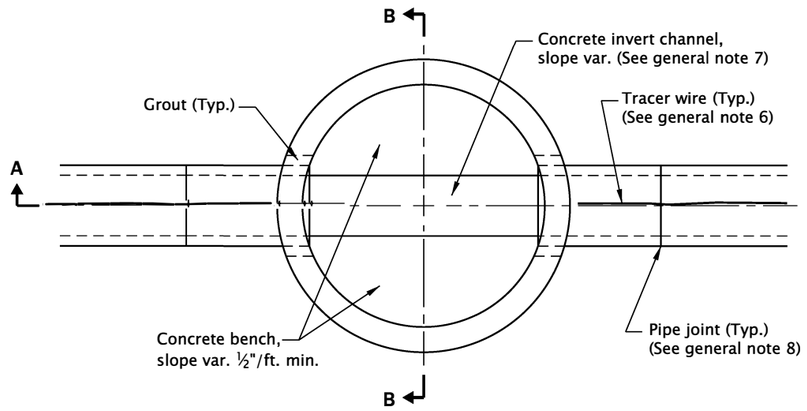
DATE	REVISION DESCRIPTION

rd344.dgn 20-JUL-2020

RD344

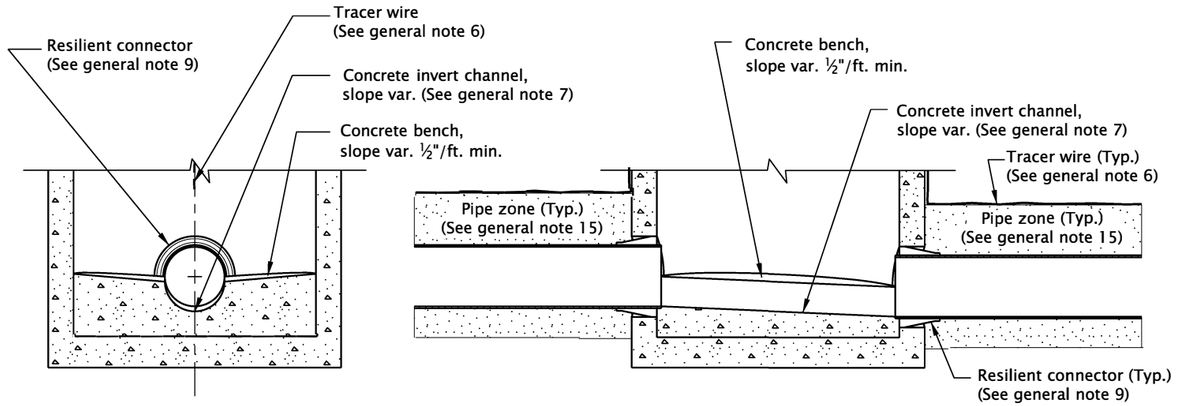


SECTION B-B **SECTION A-A**

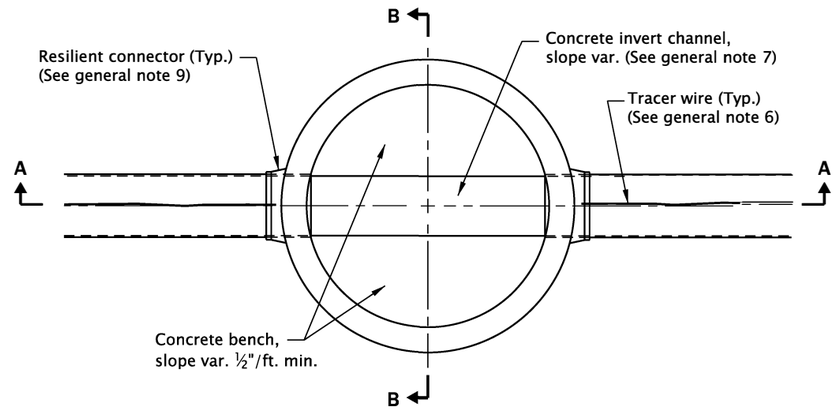


PLAN

CONNECTION OF RIGID PIPE TO MANHOLE



SECTION B-B **SECTION A-A**



PLAN

CONNECTION OF FLEXIBLE PIPE TO MANHOLE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast sections shall conform to requirements of ASTM C478.
2. Manhole base sections may be precast or cast-in-place.
3. All concrete shall be commercial grade concrete.
4. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
5. Max. pipe diameter varies with pipe material.
6. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
7. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
8. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
9. See Std. Dwgs. RD335, RD336, and RD338 for details not shown.
10. See Std. Dwg. RD336 for manhole steps details.
11. See Std. Dwg. RD342 for shallow manholes.
12. See Std. Dwg. RD344 for manhole base section.
13. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
14. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

PIPE TO MANHOLE CONNECTIONS

2024

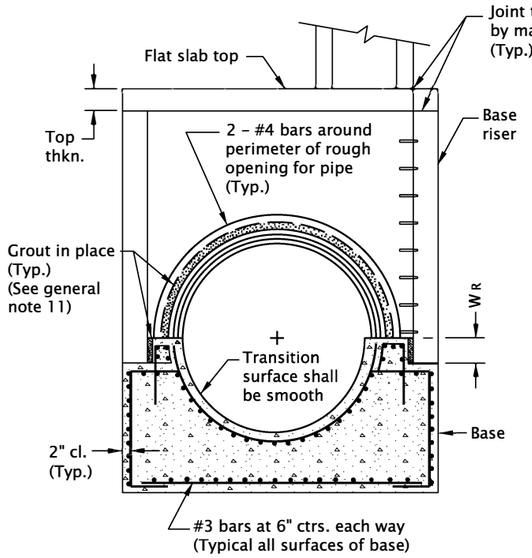
DATE	REVISION DESCRIPTION

Effective Date: January 1, 2024 - December 31, 2024

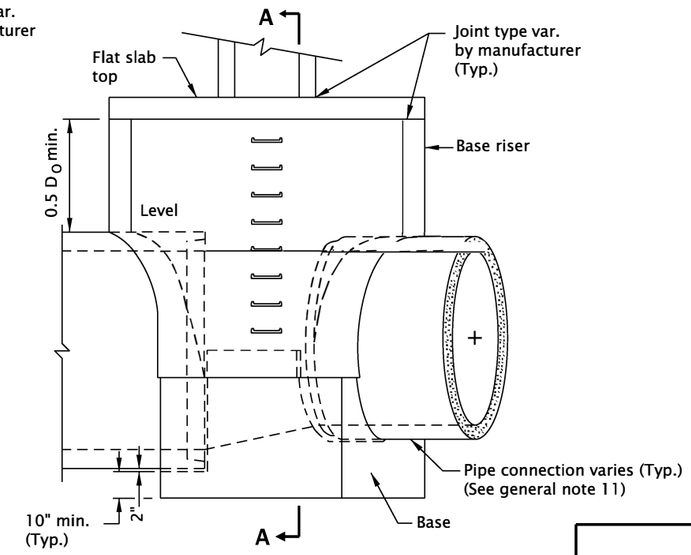
RD345

rd345.dgn 20-JUL-2020

RD345



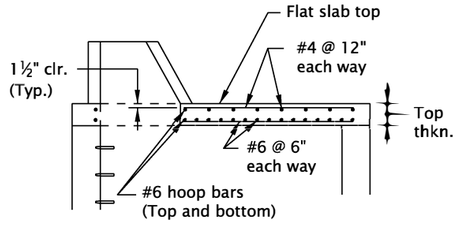
SECTION A-A



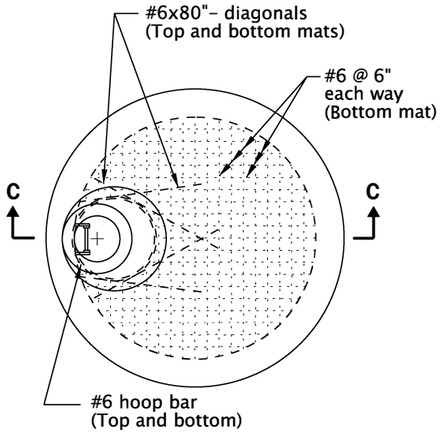
MANHOLE BASE ELEVATION

Dia. of largest pipe in manhole (Inch)	* ⊖ max when $D_I = D_O$	* Base Riser			Base X_O $X_I = X_O$ when $D_I = D_O$ (Feet)	Base X_I when $D_I < D_O$		
		D_R (Inch)	W_R (Inch)	Top Thkn. (Inch)		$D_I = (D_O - 6")$ (Feet)	$D_I = (D_O - 12")$ (Feet)	$D_I = (D_O - 18")$ (Feet)
30"	75°	60"	6"	10"	2.42	2.63	2.75	2.89
36"	67°	72"	7"	10"	2.75	2.97	3.15	3.29
42"	60°	72"	7"	10"	2.75	2.97	3.15	3.29
48"	54°	84"	8"	10"	3.02	3.27	3.48	3.66
54"	49°	84"	8"	10"	3.02	3.27	3.48	3.66
60"	45°	96"	9"	12"	3.25	3.54	3.78	3.99
66"	42°	96"	9"	12"	3.25	3.54	3.78	3.99
72"	39°	108"	10"	12"	3.48	3.79	4.06	4.29
78"	36°	108"	10"	12"	3.48	3.79	4.06	4.29
84"	34°	120"	11"	12"	3.69	4.03	4.32	4.57
90"	32°	120"	11"	12"	3.69	4.03	4.32	4.57
96"	30°	126"	11½"	12"	3.79	4.15	4.45	4.71

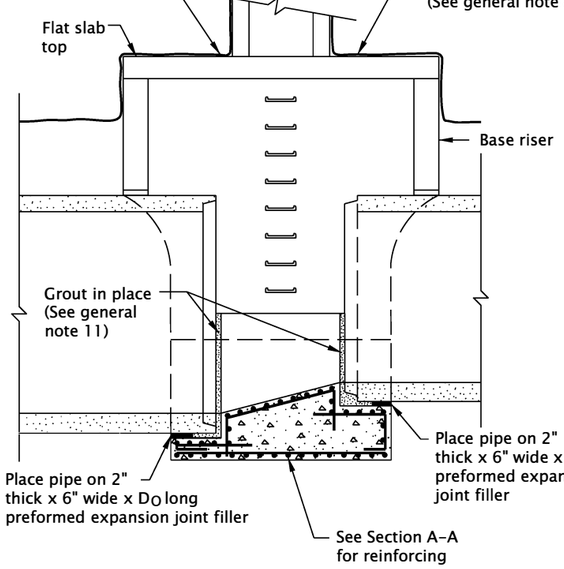
* A special design using a larger Base Riser diameter D_R may be required to obtain specified 12" min. dimension when ⊖ angle exceeds ⊖ max.



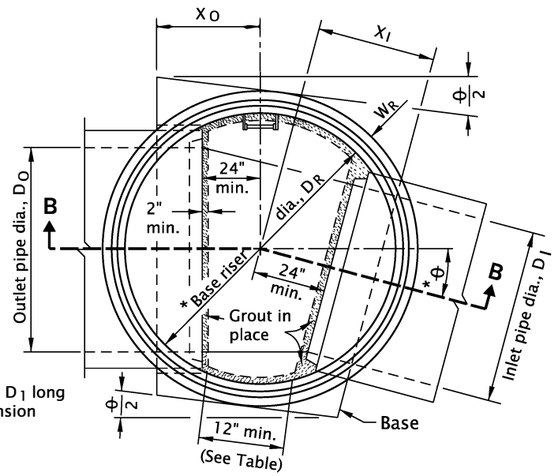
SECTION C-C



MANHOLE FLAT SLAB TOP PLAN
(Bottom reinf. mat shown)
(Manhole I.D. >4', <10' 6")



DEVELOPED SECTION B-B ALONG PIPE CENTERLINE



MANHOLE BASE PLAN

GENERAL NOTES FOR ALL DETAILS ON TIS SHEET:

1. All concrete shall be Class 4000. All precast products shall conform to requirements of ASTM C478.
2. All reinforcing steel shall conform to ASTM Specification A706 or AASHTO M31 (ASTM A615), Grade 60. The following splice lengths shall be used (unless shown otherwise):

Bar Size	4	5	6
Uncoated	16"	20"	24"

3. All reinforcement shall be placed 2" clear of the nearest face of the concrete unless shown otherwise.
4. Eccentric reducing cones or eccentric reducing flat slabs designed in accordance with AASHTO M199 shall be placed on top of the base riser as required by the contract plans. Eccentric reducing flat slabs shall be designed to support a load of 120 lb/ft in addition to the dead load of the slab, the risers above the slab, and the earth overburden above the slab.
5. Base riser to be pre-cast unless otherwise shown on the plans.
6. Cast-in-Place concrete, shown thus:
7. See Std. Dwg. RD336 for manhole steps details, and flat slab top orientation.
8. See Std. Dwg. RD336 for tracer wire details.
9. See Std. Dwg. RD336 for manhole steps.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD345 for pipe to manhole connections.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

LARGE PRECAST MANHOLE

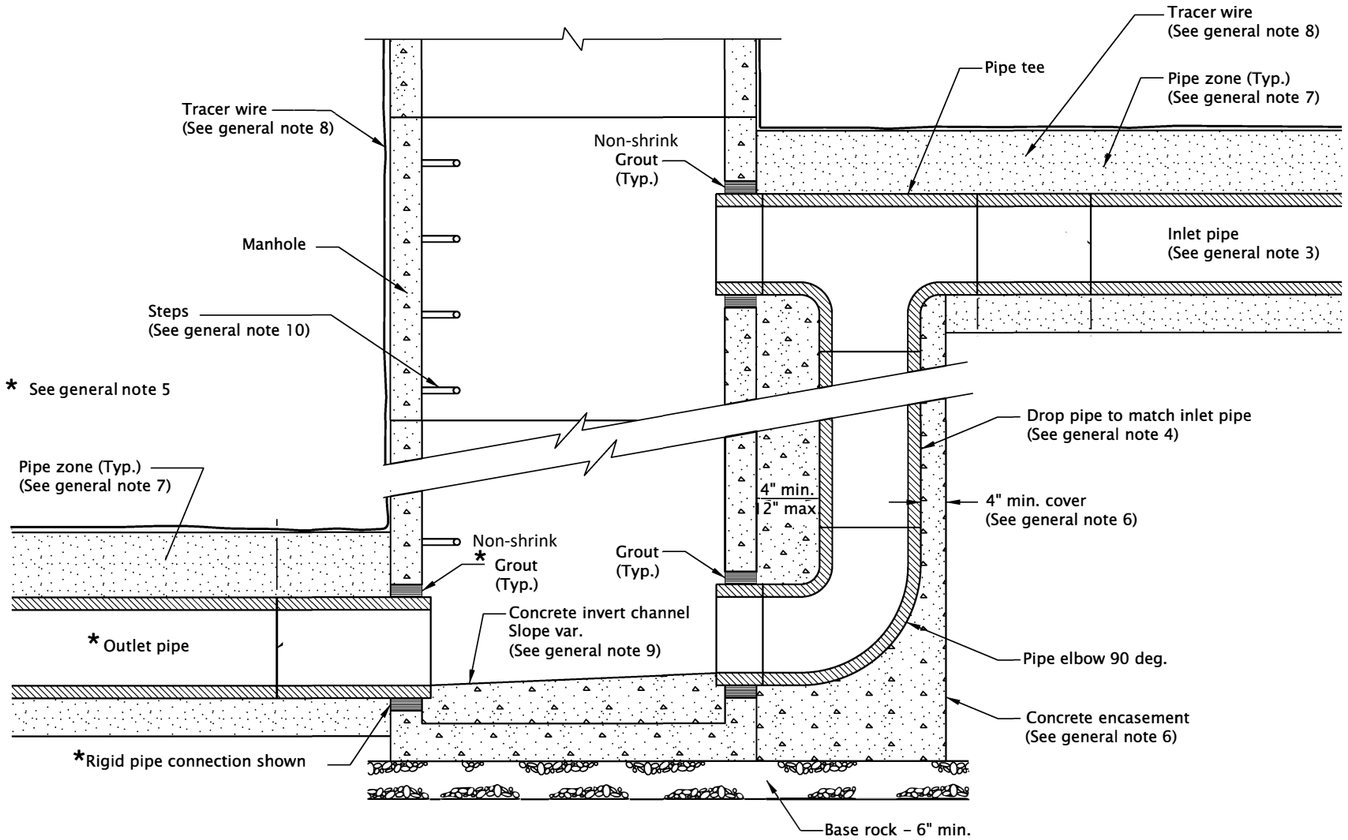
2024

DATE	REVISION DESCRIPTION

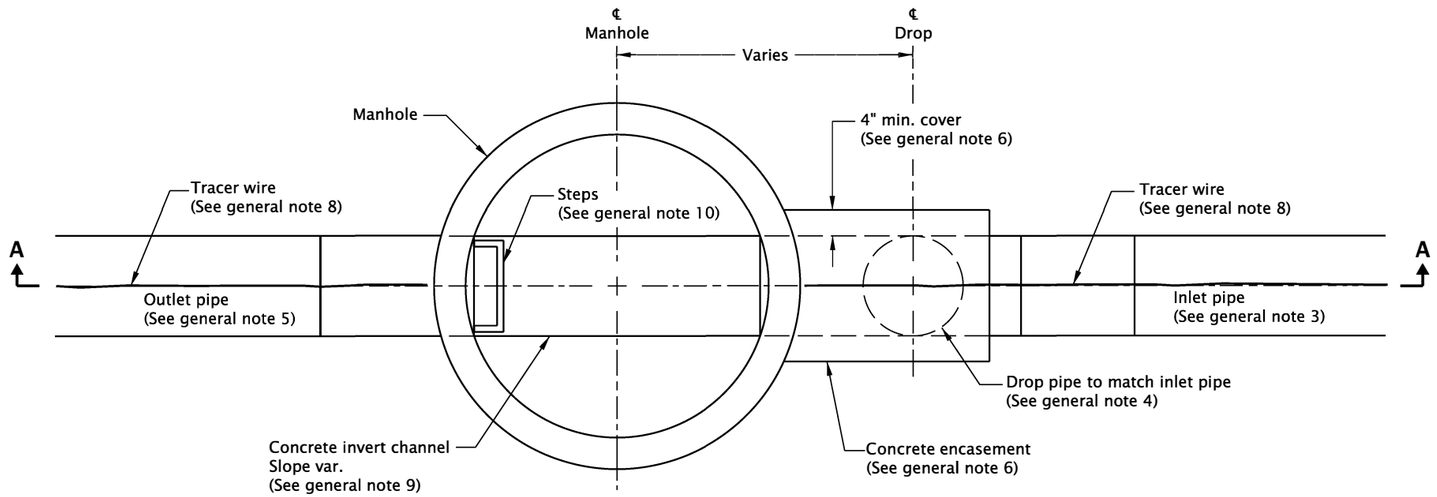
rd346.dgn 20-JUL-2020

RD346

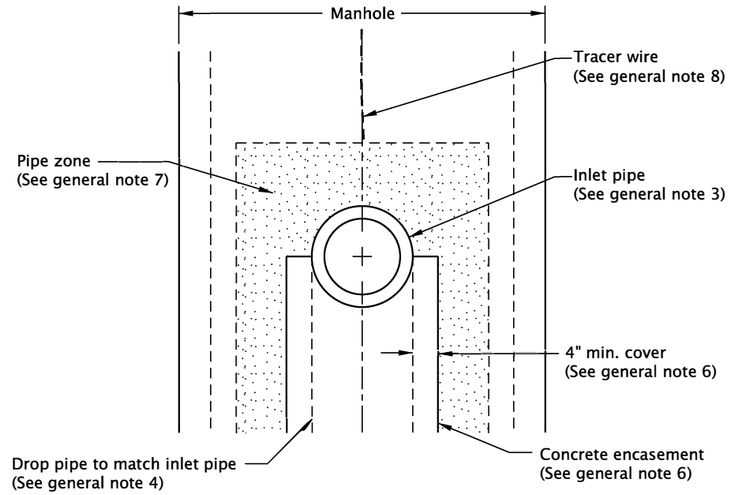
Effective Date: January 1, 2024 - December 31, 2024



SECTION A-A



PLAN



END VIEW

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate manhole standard drawings for details not shown.
2. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans. Only 1 outside drop pipe allowed per manhole. See project plans for pipe material.
3. Inlet pipe may be rigid or flexible, maximum diameter 18".
4. Drop pipe, tee, and elbow to match inlet pipe.
5. Rigid pipe connection shown. Outlet pipe(s) may be rigid or flexible, see project plans. Max. outlet pipe diameter varies with pipe material. See Std. Dwg. RD345 for pipe to manhole connections.
6. Concrete encasement shall be commercial grade concrete. Provide 4" minimum cover over outer most parts of pipe and fittings.
7. Pipe zone varies, see Std. Dwg. RD300.
8. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
9. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
10. See Std. Dwg. RD336 for manhole steps details.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

OUTSIDE DROP MANHOLES

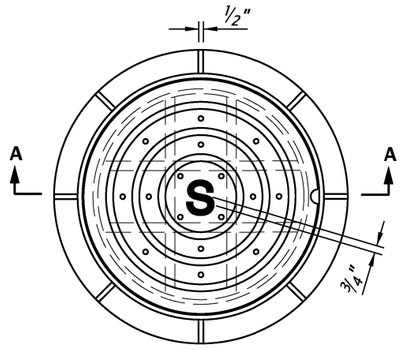
2024

DATE	REVISION DESCRIPTION

rd352.dgn 20-JUL-2020

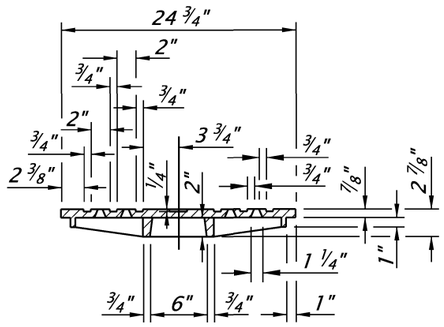
RD352

Effective Date: **January 1, 2024 - December 31, 2024**

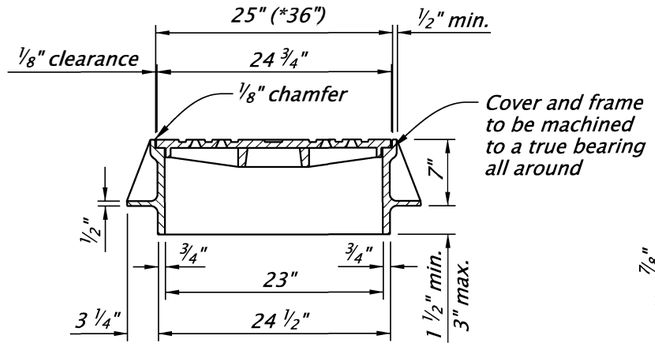


NOTE:
Coat outside of frame with asphalt where frame is to be placed in concrete, pavement, concrete gutter or walk.

PLAN



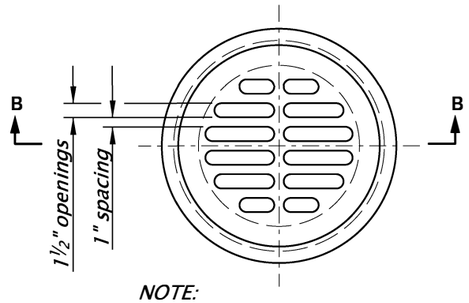
COVER SECTION A-A



**36 inch minimum diameter cover is required for mannholes with depths of 20 feet or greater. See general note 4.*

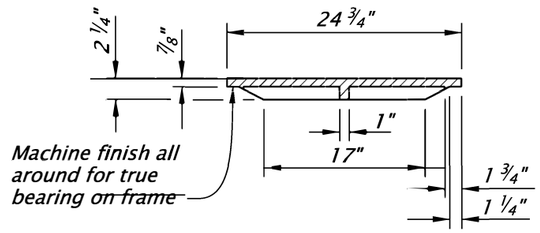
FRAME SECTION A-A

STANDARD MANHOLE COVER AND FRAME



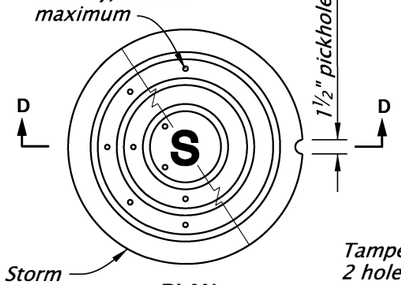
NOTE:
For use with standard manhole frame. See general note 7.

PLAN

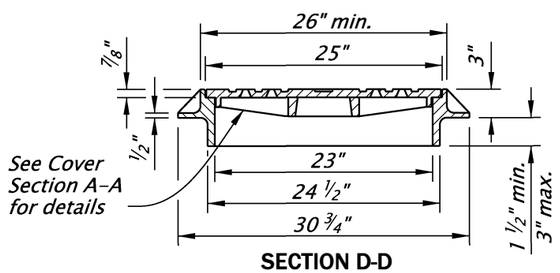


SECTION B-B

STANDARD MANHOLE GRATE



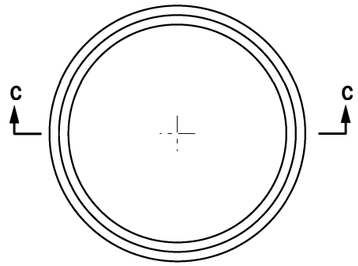
PLAN



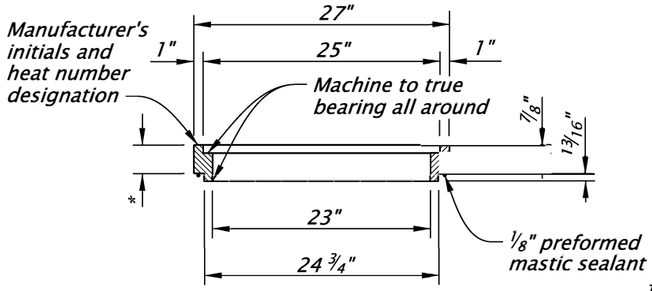
SECTION D-D

CAST IRON SUBURBAN MANHOLE COVER AND FRAME

For use on local streets only, as specified



PLAN

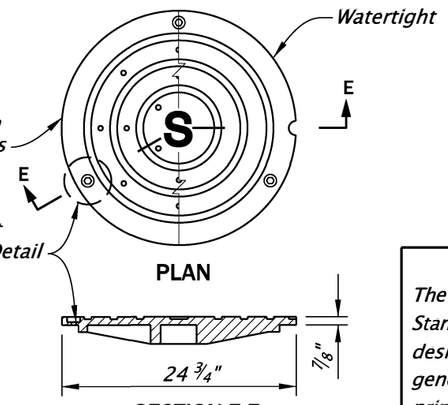


SECTION C-C

** Standard depths 1 1/2", 2", 2 1/2" and 3". Material to be grey cast iron ASTM A48, Class 35B. Tolerance on non-machined surfaces to be ±0.06". See general note 6*

MANHOLE ADJUSTMENT RING

For use with Standard Manhole Frame



PLAN

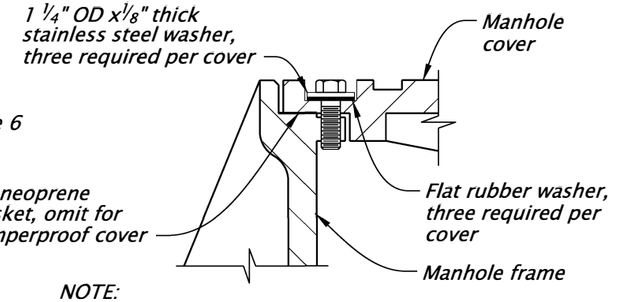
SECTION E-E

CAST IRON TAMPERPROOF AND WATERTIGHT COVER

Frames available in standard or suburban pattern

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Tamperproof covers required on sanitary or storm drain manhole where located in pedestrian ways or easement areas. Covers for sanitary manholes shall have two holes maximum.*
2. *Watertight covers required if located where cover may be submerged (no holes).*
3. *Covers and frames shall be stamped with manufacturer's initials, heat number and point of origin.*
4. *See Std. Dwg. RD336 for manhole steps.*
5. *See Std. Dwg. RD360 for manhole frame adjustment.*
6. *See ODOT's QPL for alternate manhole adjustment rings.*
7. *Manhole grate allowed only in locations not subject to bicycle or pedestrian use.*
8. *See ODOT's QPL for alternate bolt-down products.*



NOTE:
Three required, equally spaced, 1/2"x1 1/2" pentagonal or hexagonal head, bronze or stainless steel. Install frame so that one bolt boss is located over the manhole steps. See general note 8

BOLT DOWN DETAIL

For tamperproof and watertight covers

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

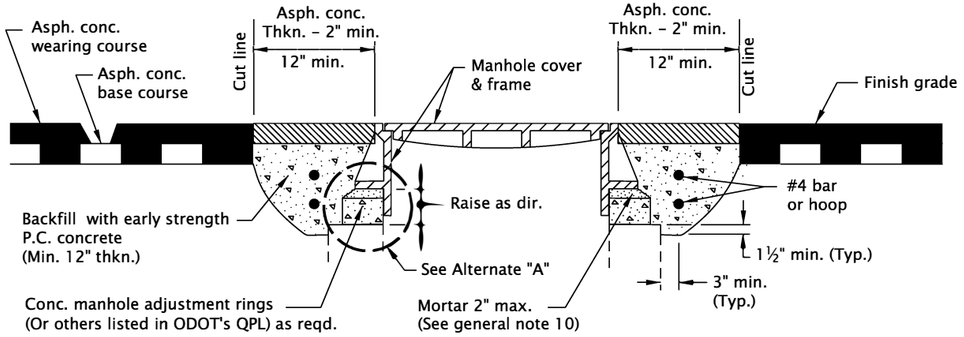
CITY OF THE DALLES STANDARD DRAWINGS

MANHOLE COVERS AND FRAMES

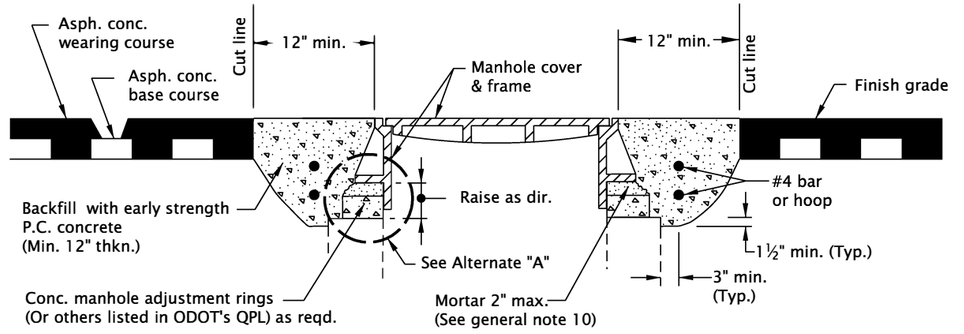
2024

DATE	REVISION DESCRIPTION
07-2022	REVISED DETAILS AND NOTES

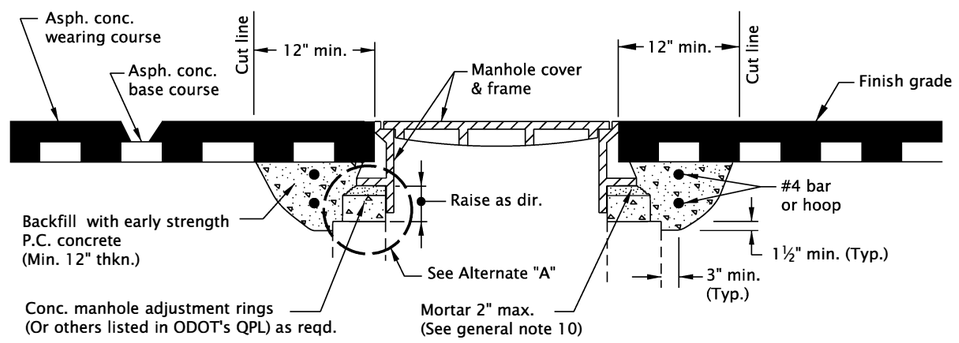
CALC. BOOK NO. N/A | SDR DATE 21-JUN-2019 | **RD356**



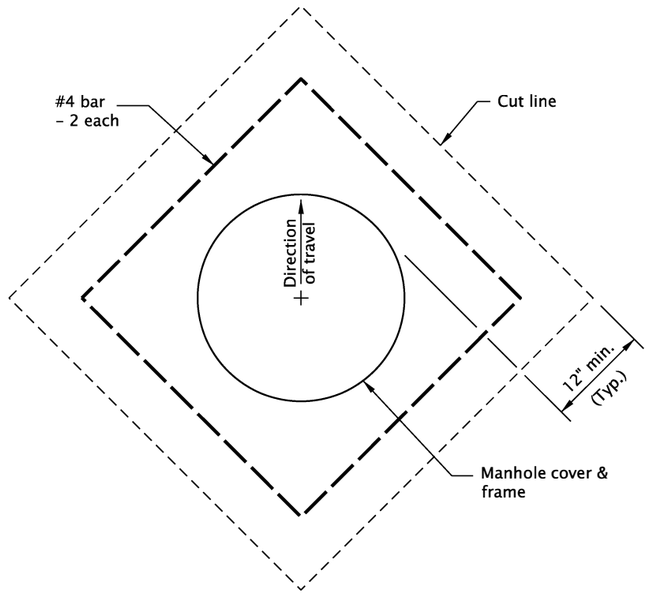
METHOD "A"



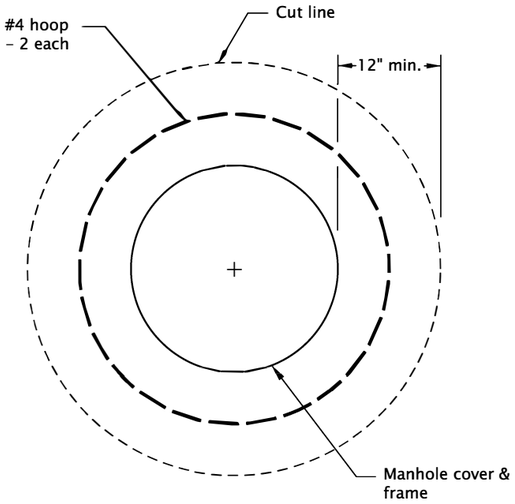
METHOD "B"



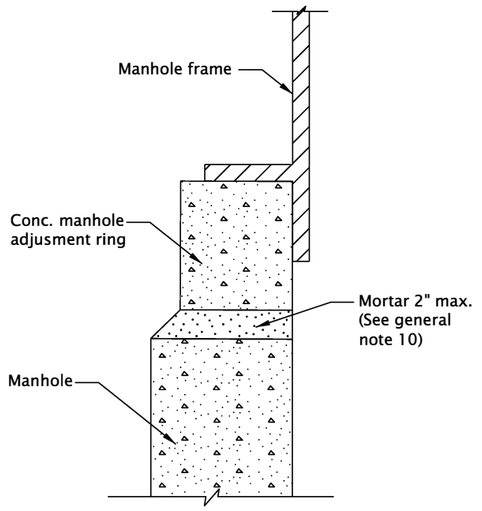
METHOD "C"



PLAN
SQUARE CUT



PLAN
CIRCULAR CUT



ALTERNATE "A"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Cover manhole with building paper and const. asph. conc. base course and wearing courses.
2. Saw cut square or circular excavation around manhole 12" min. from manhole frame.
3. Raise manhole cover and frame to finish grade by installing conc. manhole adjustment rings and leveling mortar, as shown.
4. Backfill with early strength Portland Cement Concrete. All concrete shall be commercial grade concrete.
5. Protect from traffic loading until conc. has cured to 3000 psi.
6. Apply tack coat to edges of existing pavement before installing patch.
7. Finish joint with asphalt seal and sand.
8. See Std. Dwg. RD336 for manhole steps details.
9. See appropriate manhole standard drawings for details not shown.
10. Use epoxy for synthetic grade rings.
11. See Std. Dwg. RD336 for tracer wire details.
12. See Std. Dwg. RD356 for manhole covers and frames.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

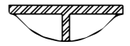
MANHOLE FRAME ADJUSTMENT

2024

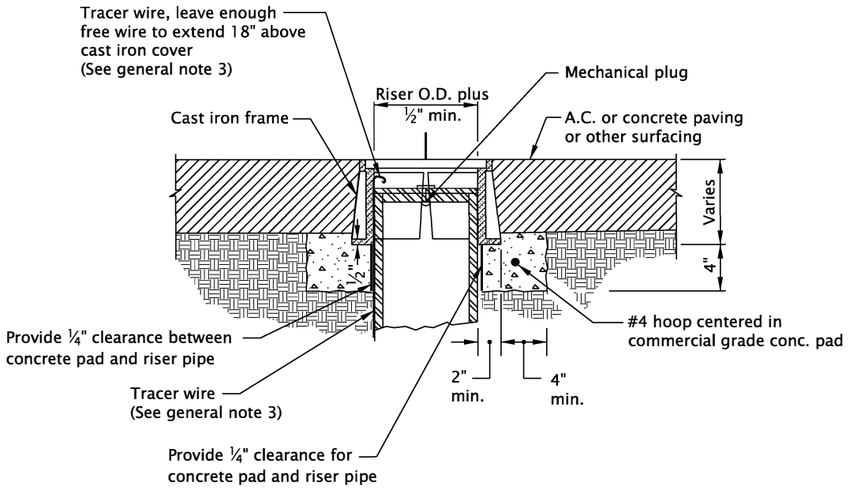
DATE	REVISION DESCRIPTION

rd360.dgn 20-JUL-2020

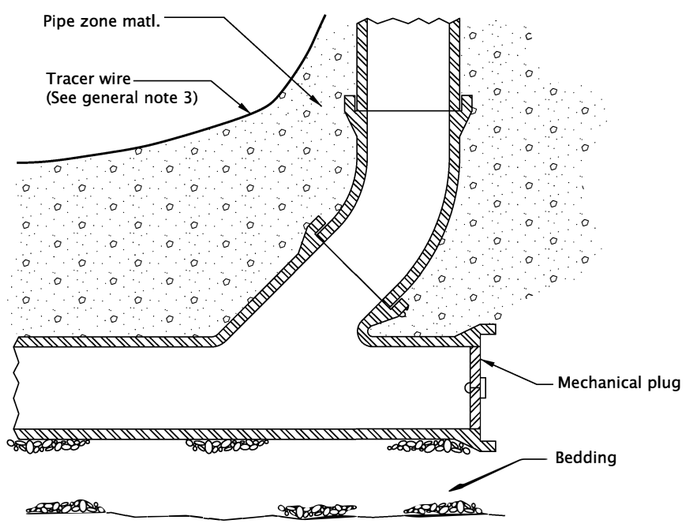
RD360



CAST IRON COVER



CAST IRON FRAME



CLEANOUT

FRAMES AND COVERS

4" SERVICE CLEANOUT: OLYMPIC FOUNDRY 041814 FRAME, or approved equal
OLYMPIC FOUNDRY 18-5122 COVER, or approved equal

8" OR LARGER CLEANOUT: OLYMPIC FOUNDRY M1018DT FRAME AND COVER, or approved equal

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

SANITARY CLEANOUT

2024

DATE	REVISION DESCRIPTION

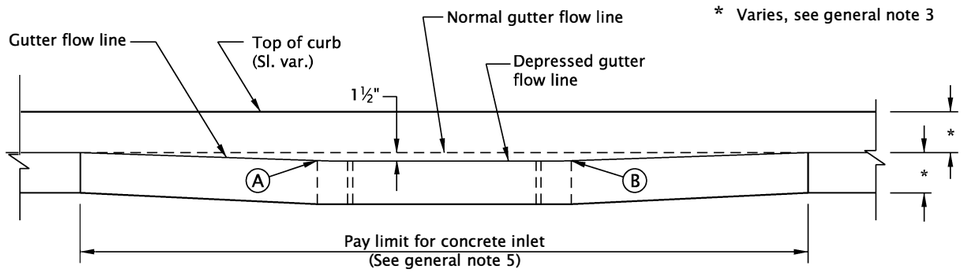
Effective Date: **January** 1, 2024 - **December** 31, 2024

RD362

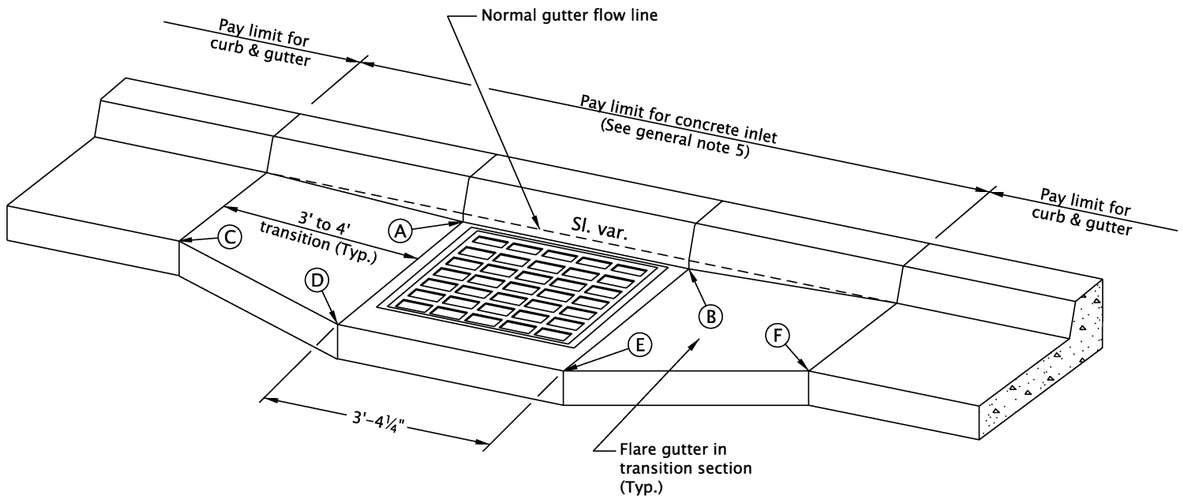
RD362

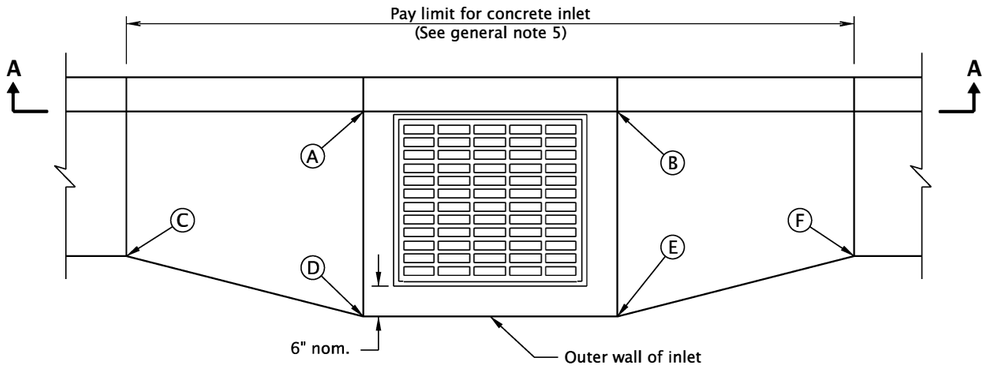
rd362.dgn 20-JUL-2020

NOTES:
1. Provide 1½" local depression at points A & B.
2. Match normal pvmt. grade at points C, D, E & F.
3. Vary transition section slopes to match above points.



SECTION A-A





PLAN VIEW

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For inlet details, see appropriate inlet standard drawing(s).
2. For frame and grate details, see Std. Dwg. RD365.
3. For curb details, see Std. Dwgs. RD700 & RD701.
4. All concrete shall be commercial grade concrete.
5. Pay limit for inlet is expanded when curb and gutter are monolithic.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

GUTTER TRANSITION AT INLET

2024

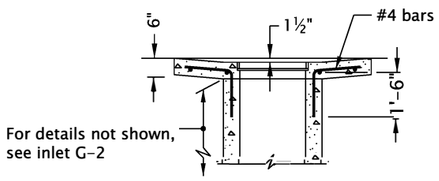
DATE	REVISION DESCRIPTION

rd363.dgn 20-JUL-2020

RD363

Effective Date: January 1, 2024 - December 31, 2024

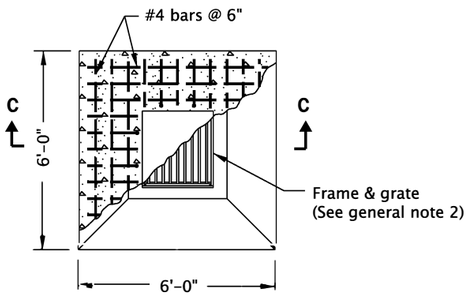
rd364.dgn 20-JUL-2020



SECTION C-C

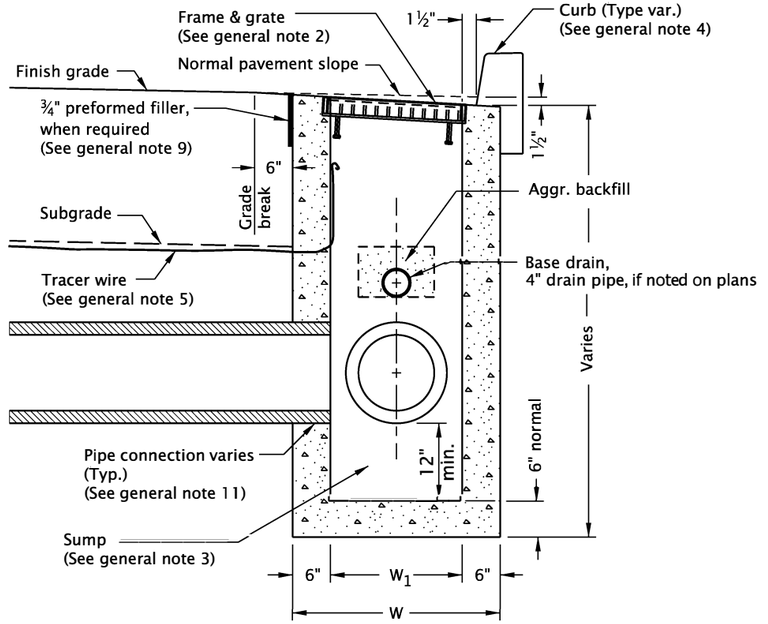
NOTE:

All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise

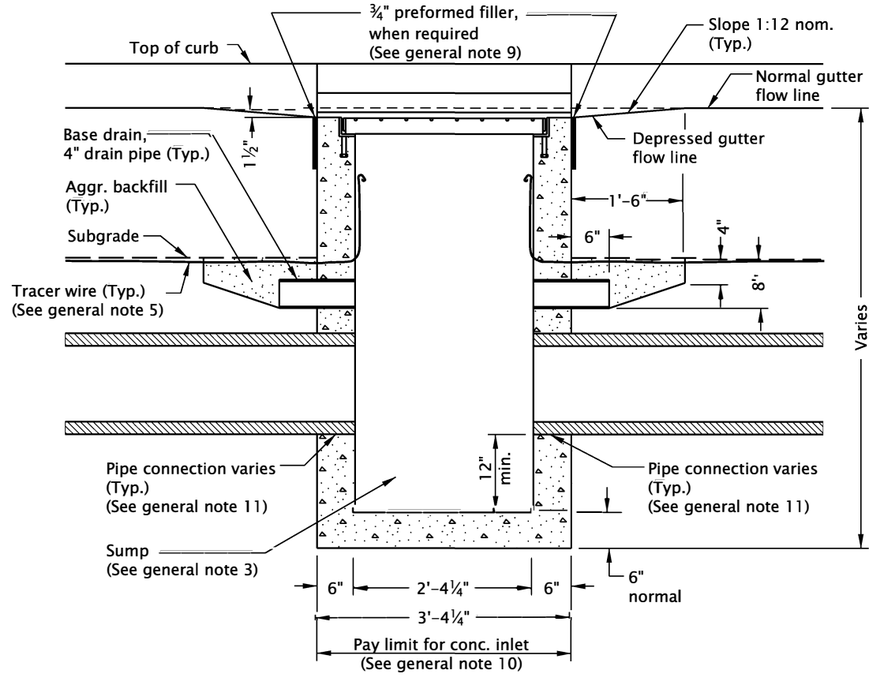


PLAN

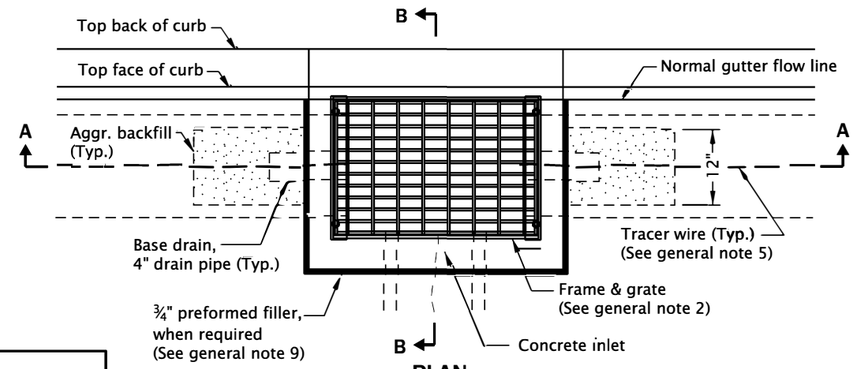
TYPE G-2MA



SECTION B - B



SECTION A - A



PLAN

TYPE G-1, G-2, G-2M

TABLE A		
INLET TYPE	W	W_1
G-1	2'-8⅞"	1'-8⅞"
G-2, G-2M, G-2MA	3'-3⅜"	2'-3⅜"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of 3/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.
   Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
   For frame and grate details, see Std. Dwg. RD365.
3. Provide 18" sump unless otherwise approved by City Engineer
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
11. See Std. Dwg. RD339 for pipe to structure connections.

CALC. BOOK NO. N/A

SDR DATE

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

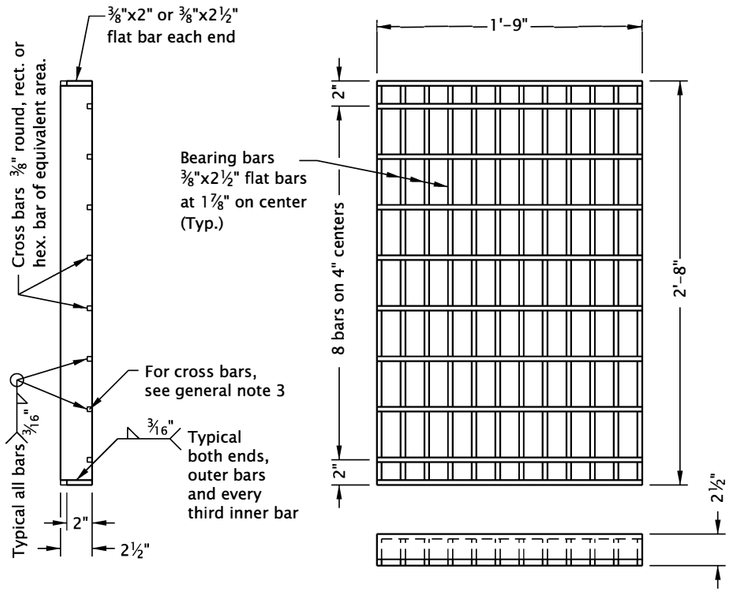
CONCRETE INLETS
TYPE G-1, G-2, G-2M, & G-2MA

2024

DATE	REVISION DESCRIPTION

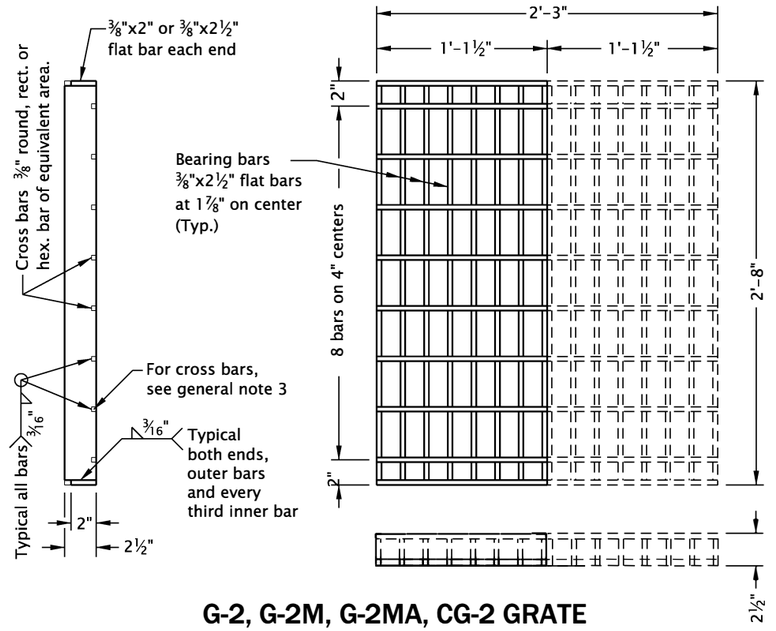
RD364

Effective Date: January 1, 2024 - December 31, 2024



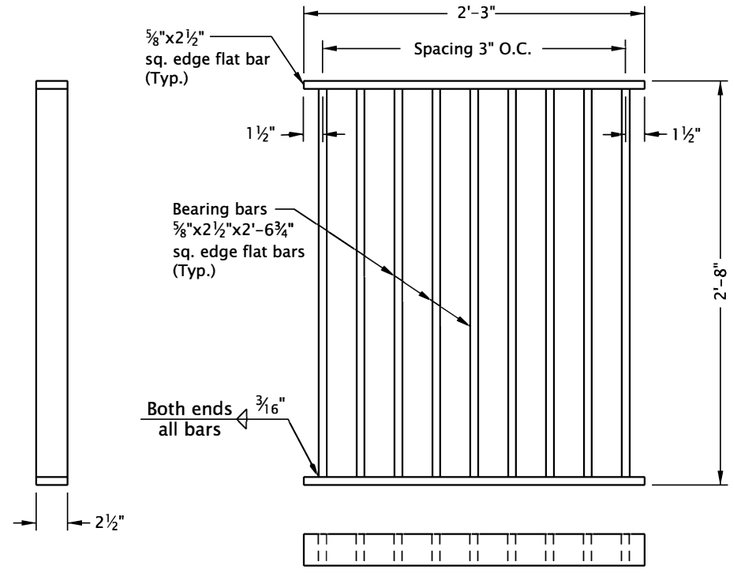
G-1, CG-1 GRATE (TYPE 2)

(Bicycle-safe)



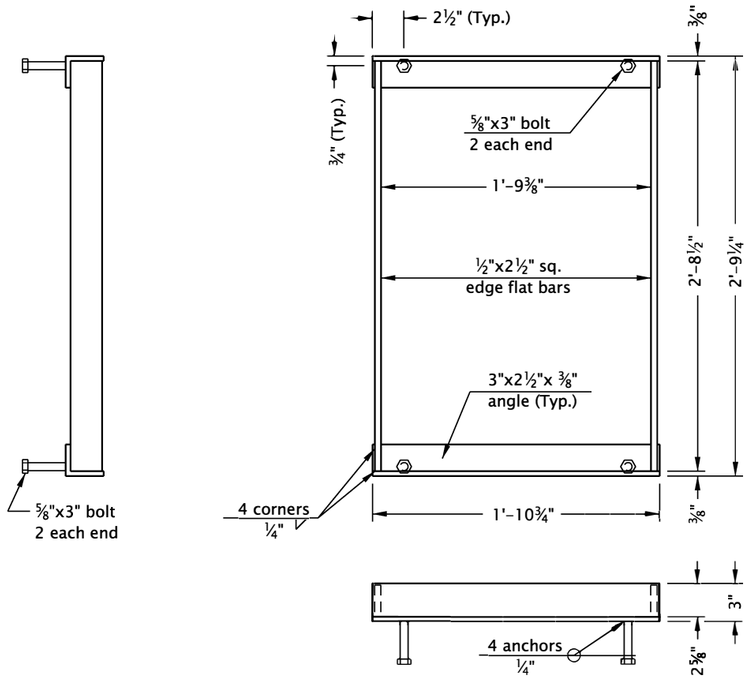
G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 2)

(Bicycle-safe)
(2 grates required per inlet, as shown)

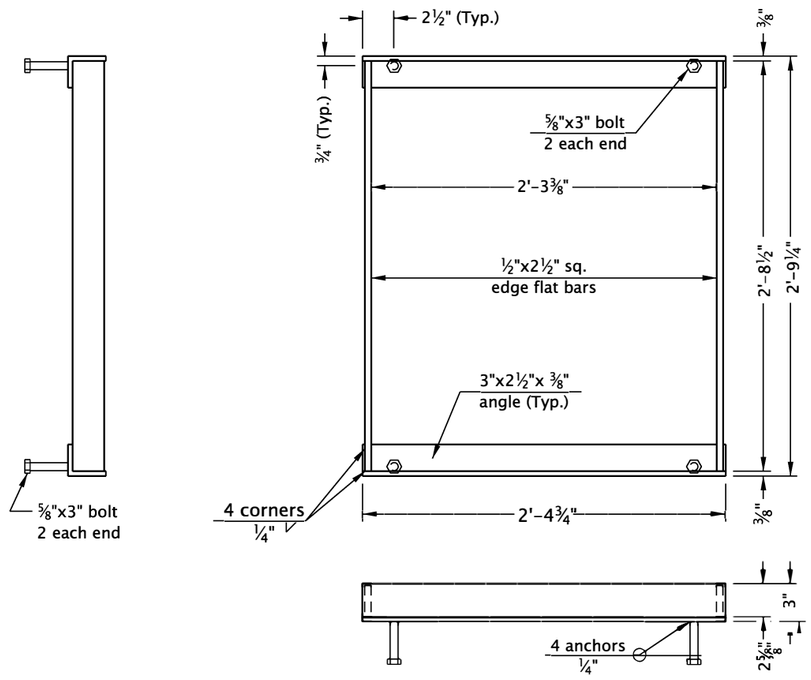


G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 1)

(See general note 2)



G-1, CG-1 FRAME



G-2, G-2M, G-2MA, CG-2 FRAME

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For inlet details, see appropriate inlet standard drawing(s).
2. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
3. ⅜" cross bars shall be flush with the top of grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
4. Hot dip galvanize after fabrication.
5. Cast iron grate and frame are acceptable alternates. See ODOT's QPL.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

FRAMES & GRATES FOR CONCRETE INLETS

2024

DATE	REVISION DESCRIPTION

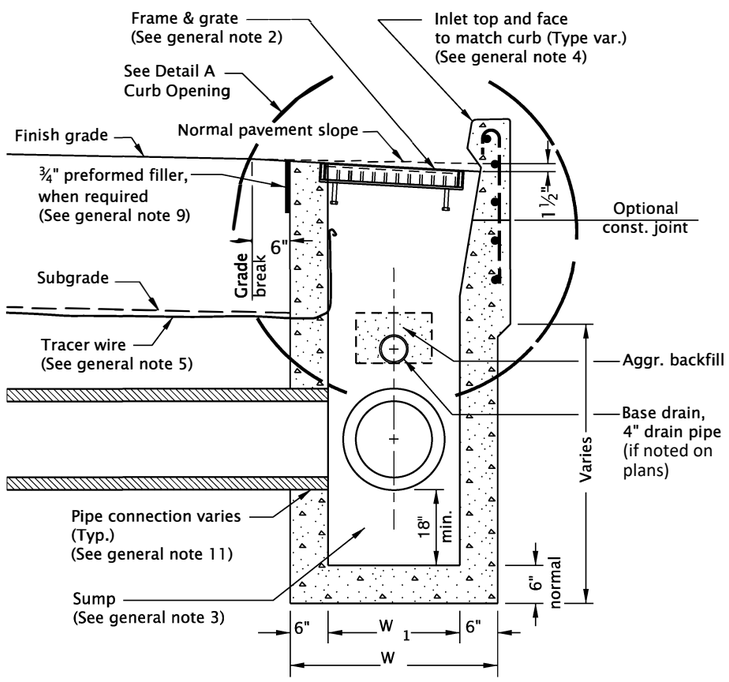
rd365.dgn 20-JUL-2020

RD365

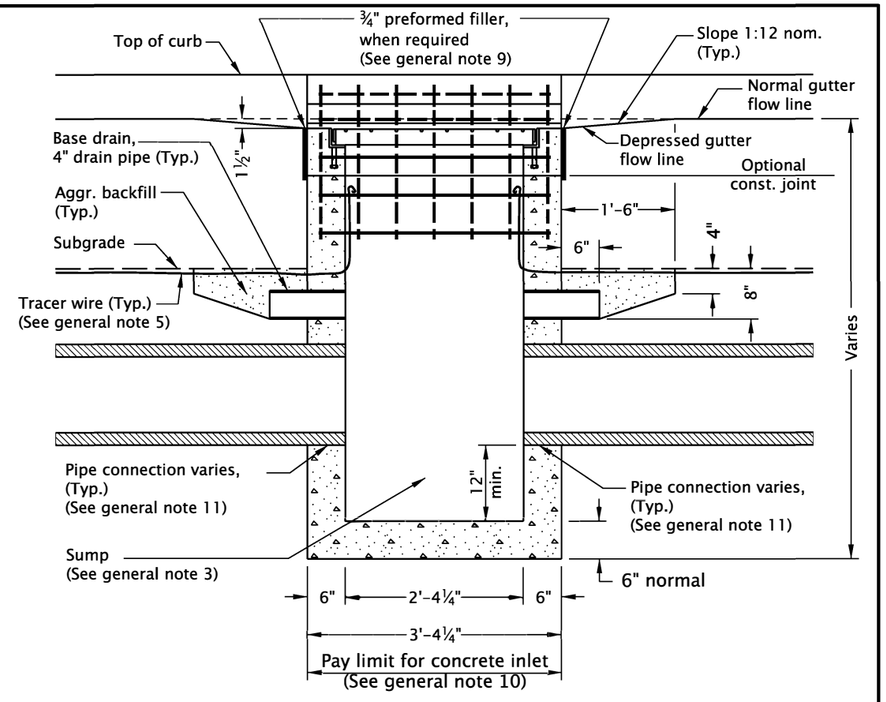
Effective Date: **January 1, 2024 - December 31, 2024**

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

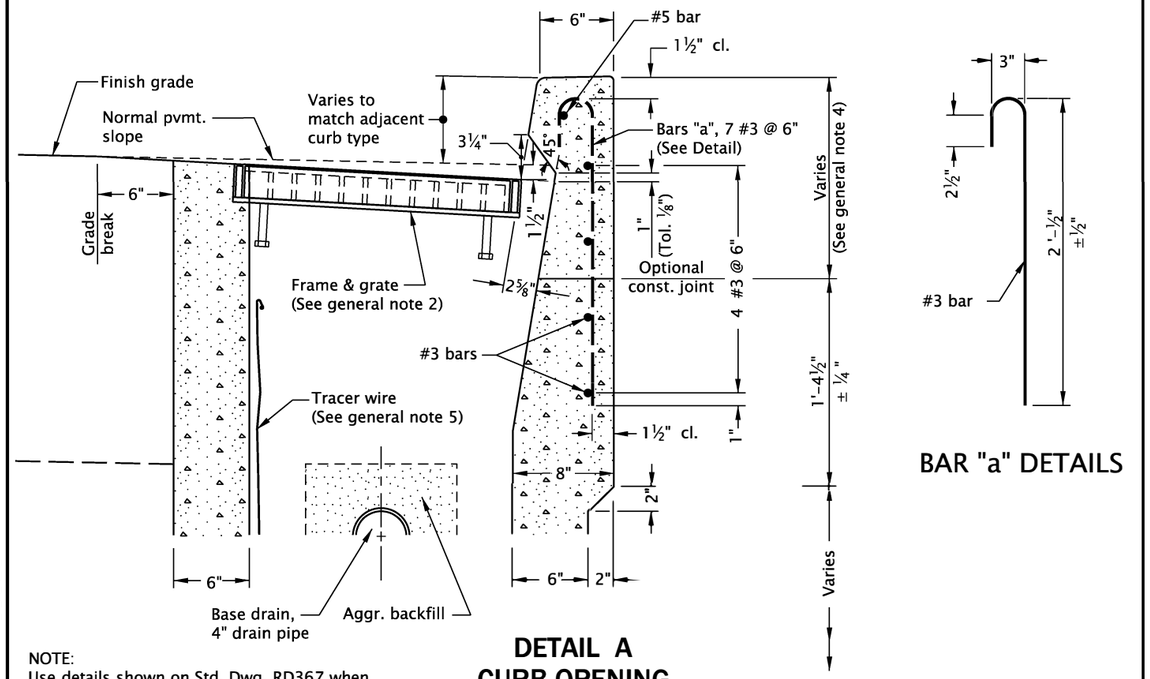
1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of 3/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show CG-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Dwg. RD365.
3. Provide 18" sump unless otherwise approved by City Engineer.
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required. (Pay limit for inlet is expanded when curb and gutter are monolithic)
11. See Std. Dwg. RD339 for pipe to structure connections.



SECTION B - B



SECTION A - A



NOTE:
Use details shown on Std. Dwg. RD367 when curb inlet channels are used.

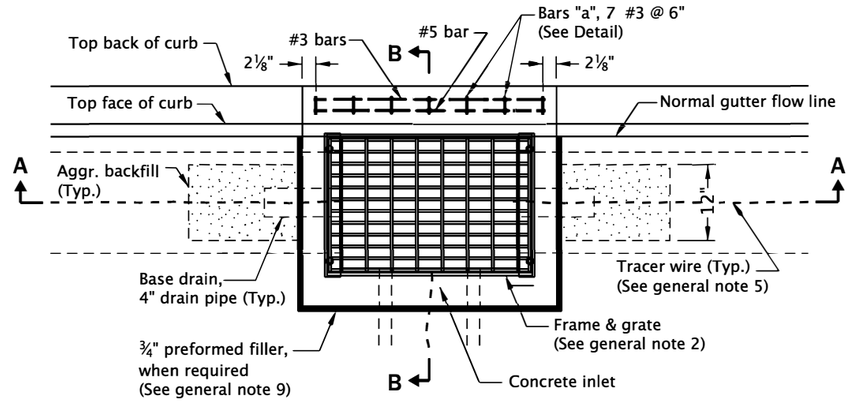
DETAIL A
CURB OPENING

BAR "a" DETAILS

TABLE A		
INLET TYPE	W	W_1
CG-1	2'-8⅞"	1'-8⅞"
CG-2	3'-3⅜"	2'-3⅜"

NOTES:

1. #3 "a" bars to be placed during curb construction.
2. All bars to be placed 1½" clear of nearest face of concrete unless shown or noted otherwise.
3. All bars shall be full length.



PLAN

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE INLETS TYPE CG-1, CG-2

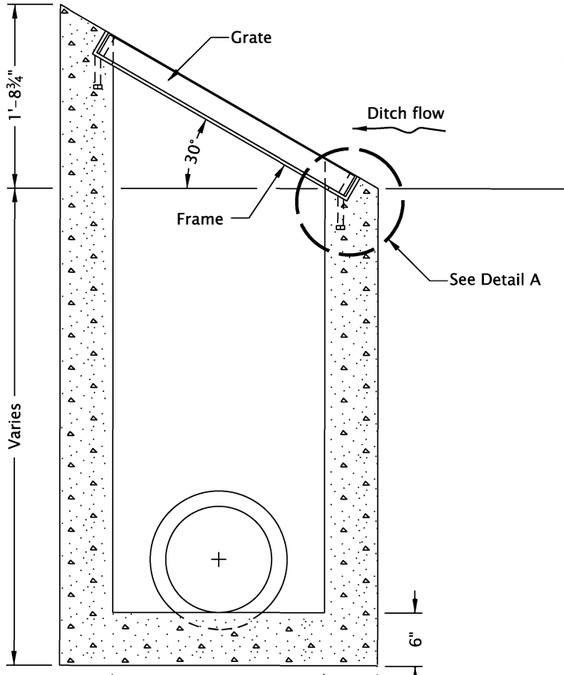
2024

DATE	REVISION DESCRIPTION

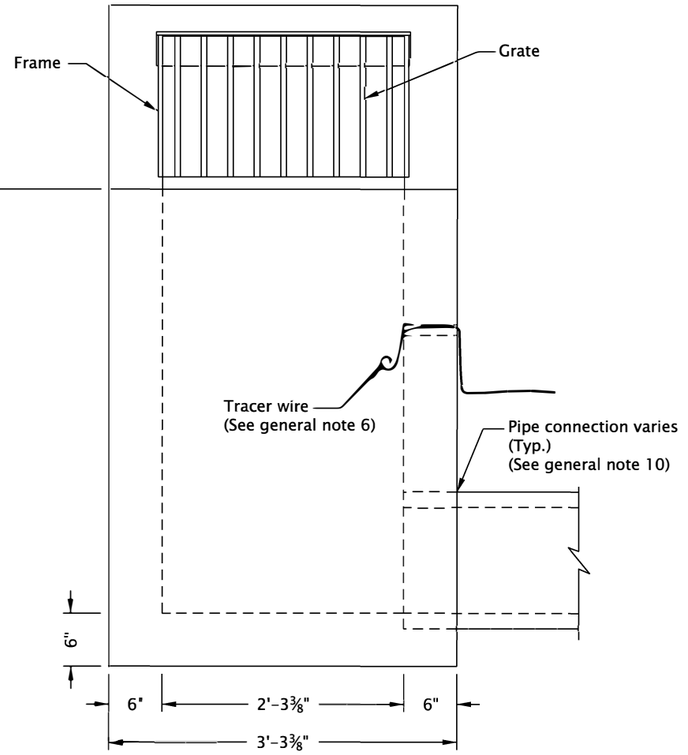
rd366.dgn 20-JUL-2020

RD366

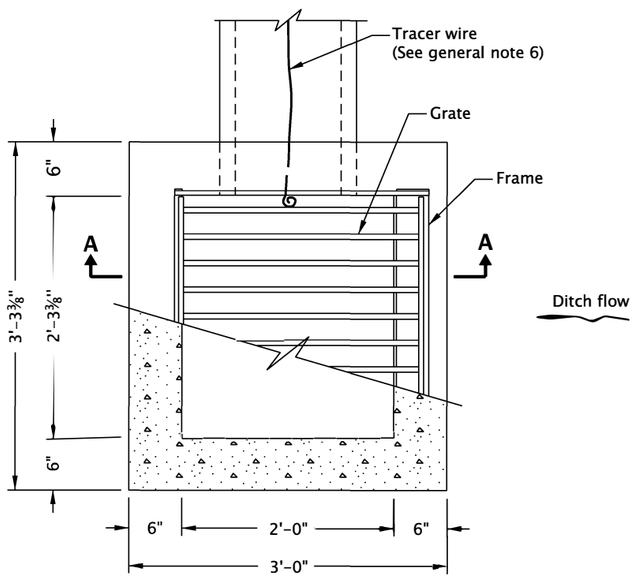
Effective Date: **January 1, 2024 - December 31, 2024**



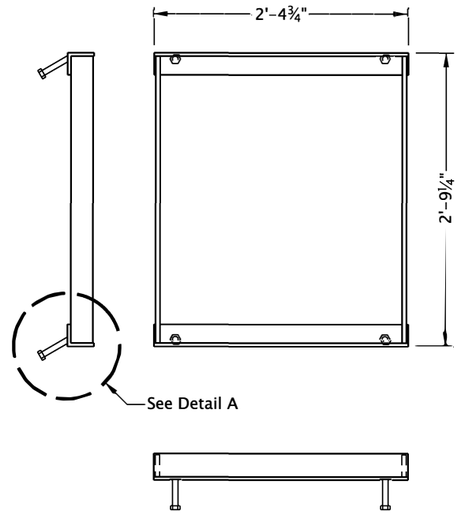
SECTION A - A



ELEVATION

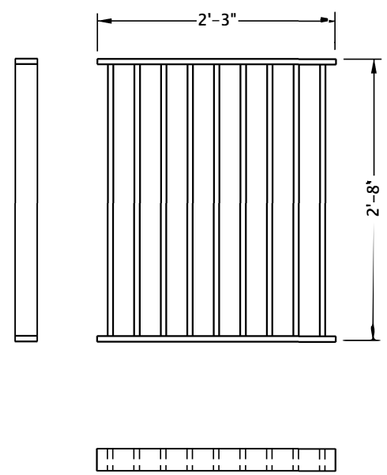


PLAN



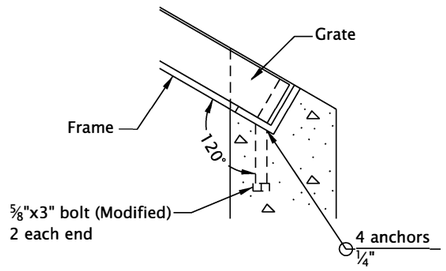
G-2 FRAME

(See general note 2)



G-2 GRATE (TYPE 1)

(See general note 2)



DETAIL A

(Anchor bolt modication, see general note 2)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. For frame & grate details not shown, see Std. Dwg. RD365.
   Modify anchor bolt attachment to frame as shown in Detail A.
   G-2 (Type 2) grates may be used if approved by the engineer.
3. Catch basin, frame, and grates shall meet H20 loading.
4. Provide 18" sump unless otherwise approved by Engineer. For sump details, see Std. Dwg. RD364.
6. ⅝" cross bars shall be flush with the grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
6. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
7. Max. pipe diameter varies with pipe material.
8. Do not use in locations where inlet can be struck by an errant vehicle, or provide shielding of inlet.
9. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of 3/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
10. See Std. Dwg. RD339 for pipe to structure connections.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

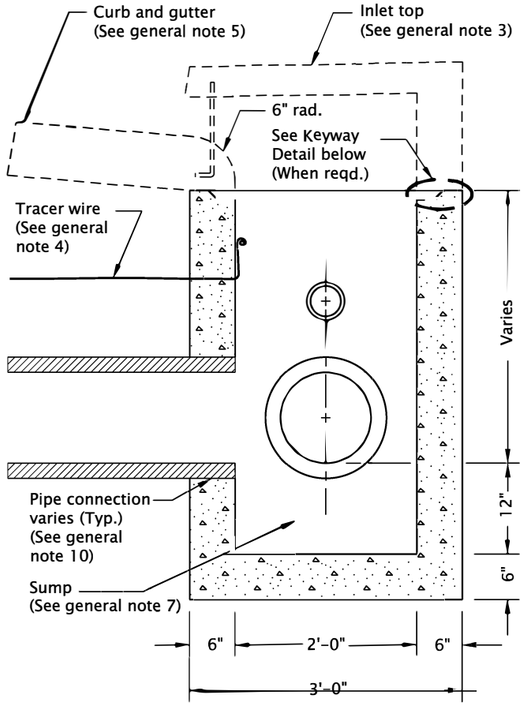
DITCH INLET TYPE D

2024

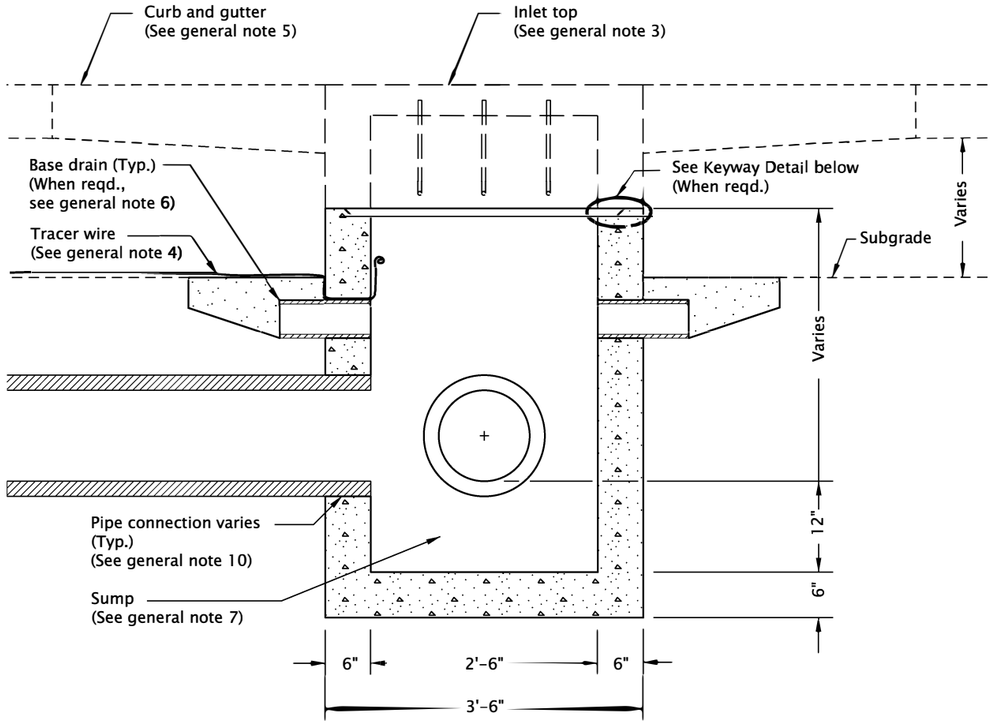
DATE	REVISION DESCRIPTION

RD370

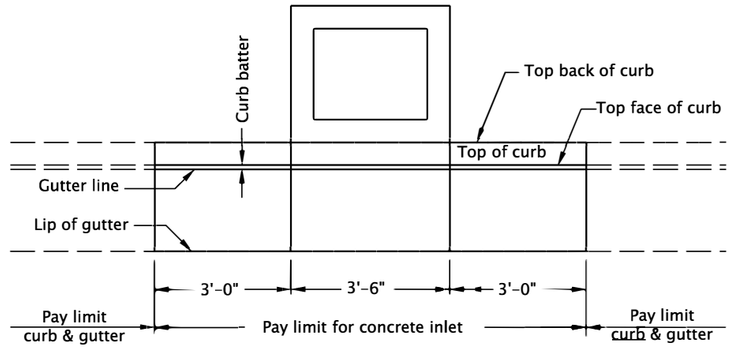
rd370.dgn 20-JUL-2020



SECTION B - B



SECTION A - A

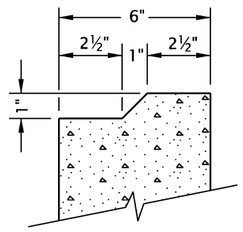


PLAN

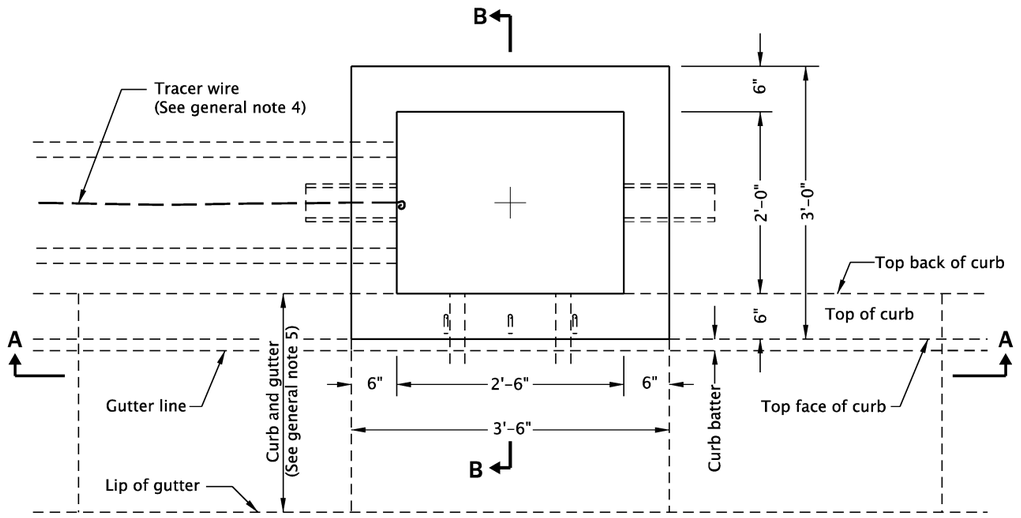
PAY LIMIT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of 3/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
3. See Std. Dwgs. RD372 & RD373 for inlet top details.
4. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
5. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
6. See Std. Dwg. RD364 for base drain details.
7. Provide 18" sump unless otherwise approved by City Engineer. For sump details, see Std. Dwg. RD364.
8. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
9. Max. pipe diameter varies with pipe material.
10. See Std. Dwg. RD339 for pipe to structure connections.



KEYWAY DETAIL



PLAN

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE INLET BASE TYPE CG-3

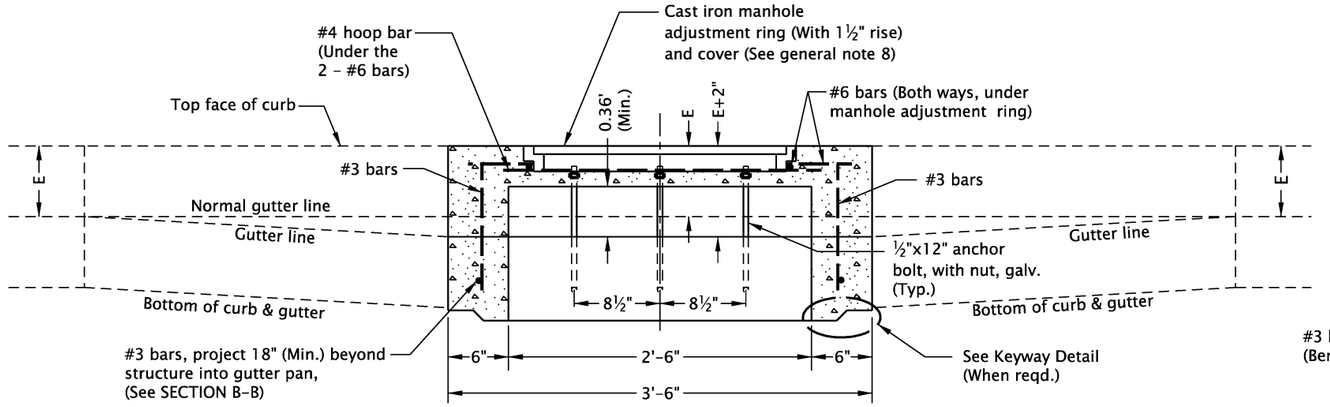
2024

DATE	REVISION DESCRIPTION

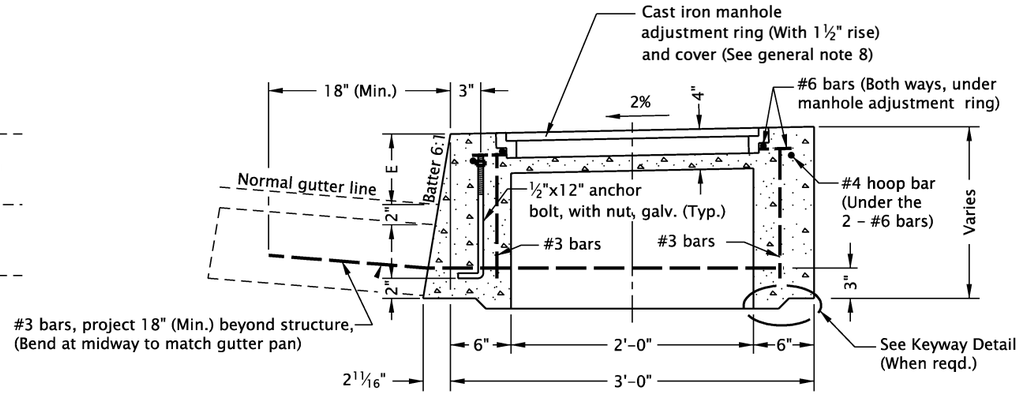
RD371

rd371.dgn 20-JUL-2020

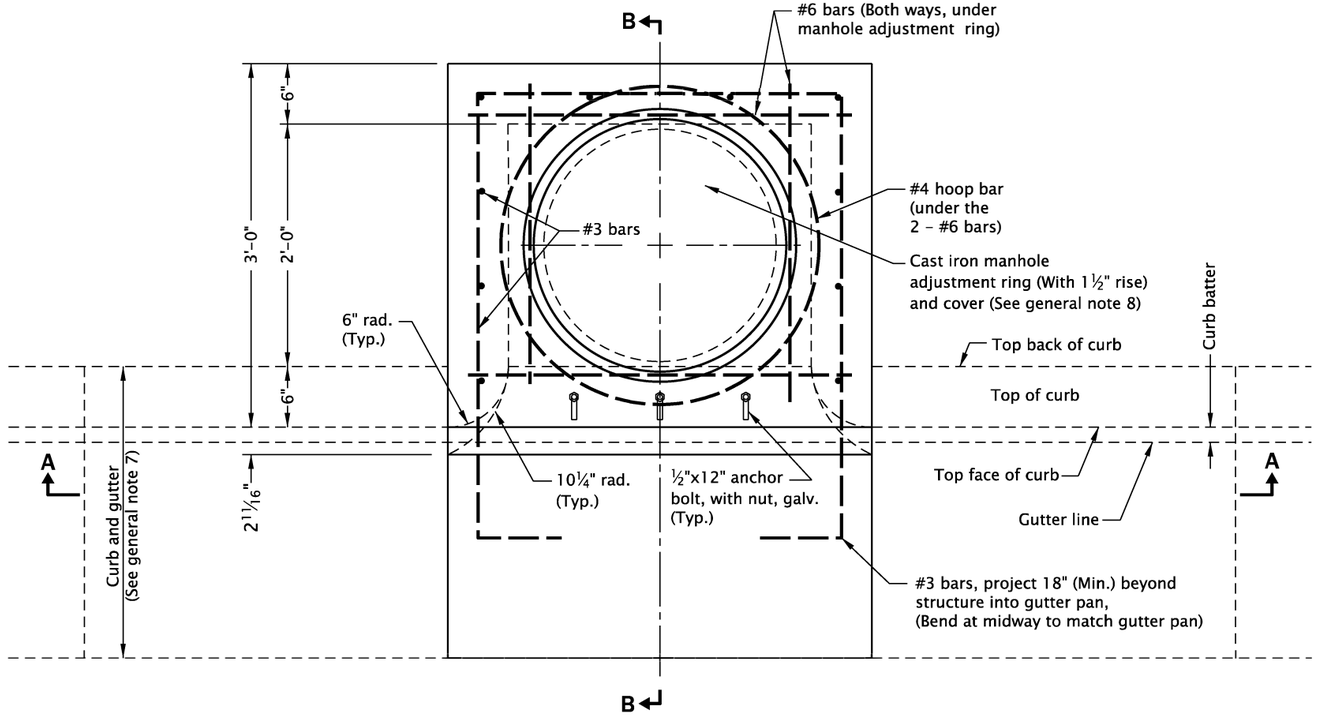
Effective Date: **January** 1, 2024 - **December** 31, 2024



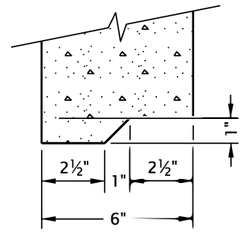
SECTION A - A



SECTION B - B



PLAN



KEYWAY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (See note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. See Std. Dwg. RD356 for cast iron manhole adjustment ring and cover.

CALC. BOOK NO. N/A

SDR DATE 16-JAN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

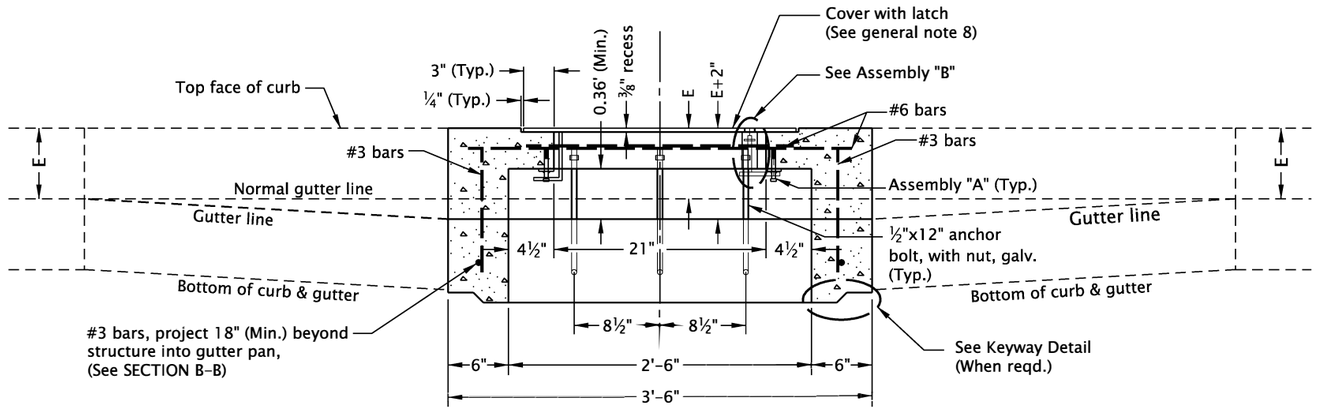
CONCRETE INLET TOP, OPTION 1 TYPE CG-3

2024

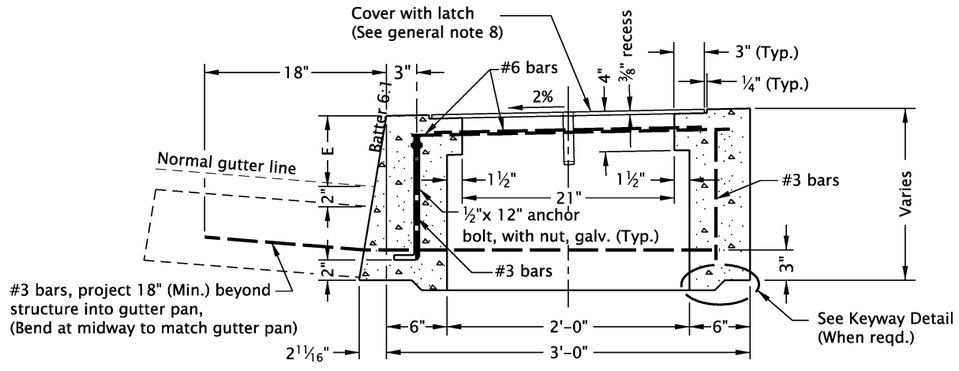
DATE	REVISION DESCRIPTION

rd372.dgn 20-JUL-2020

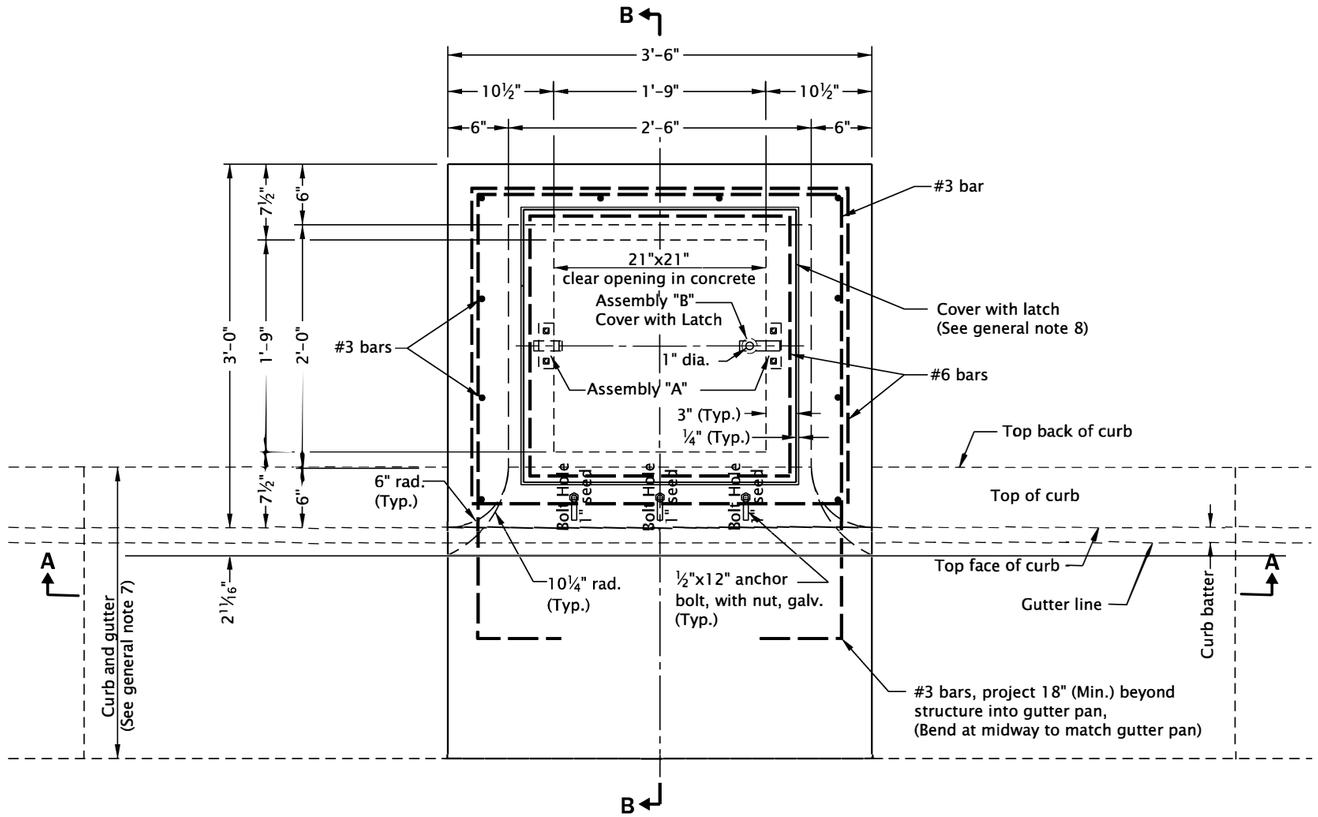
RD372



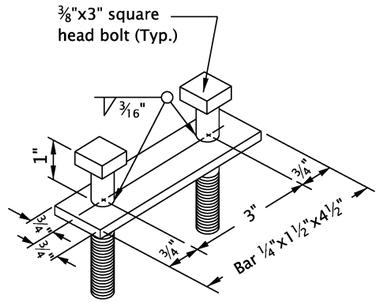
SECTION A - A



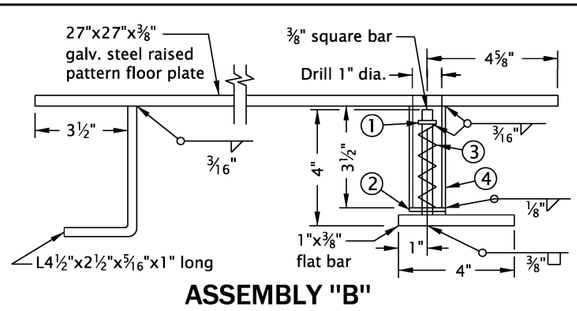
SECTION B - B



PLAN



ASSEMBLY "A"



ASSEMBLY "B"
COVER WITH LATCH

① Washer used as spring stop. Weld washer to ⅜" square bar, ⅜" from end.

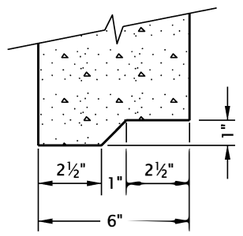
② 1¼" dia. washer used as a tube plug. Weld to tubing.

③ 90 lb comp. spring.

④ 1¼"x0.125 tubing.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (see note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. Provide cover with latch per Assembly A & Assembly B, hot dip galvanize after fabrication. Mount cover with latch flush with finish grade, in ⅜" deep concrete recess, with ¼" horizontal clearance on all sides.



KEYWAY DETAIL

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 16-JAN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE INLET TOP, OPTION 2 TYPE CG-3

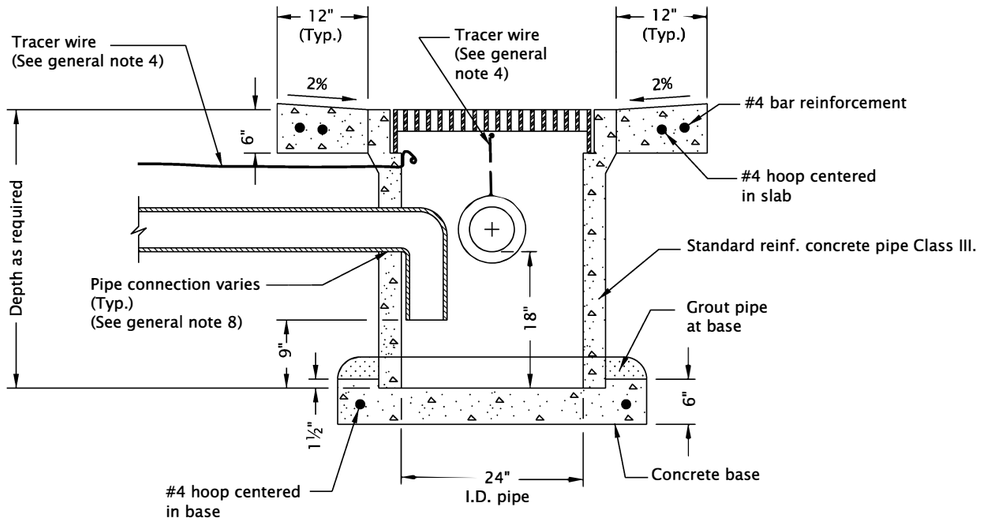
2024

DATE	REVISION DESCRIPTION

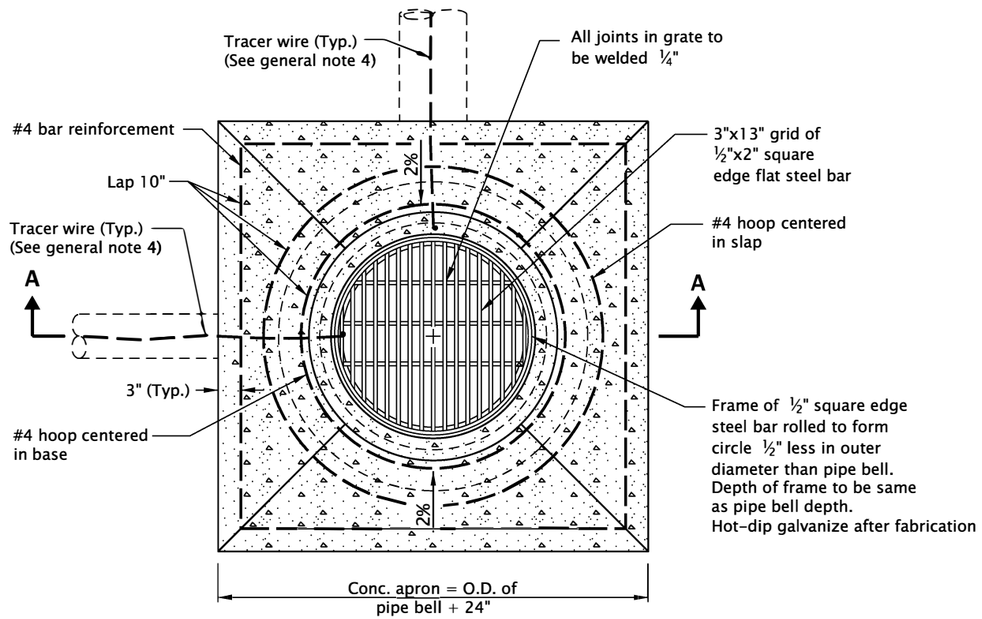
rd373.dgn 20-JUL-2020

RD373

Effective Date: **January 1, 2024 - December 31, 2024**



SECTION A-A



PLAN

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Grates shall be bicycle-safe.
2. Precast concrete inlets may be used when specified or approved. All precast inlets shall conform to requirements of ASTM C913.
3. Anchor vertical leg of inlet pipe if not a glued joint.
4. See Std. Dwg. RD336 for tracer wire details.
5. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
6. Max. connecting pipe diameter varies with pipe material.
7. All concrete shall be commercial grade concrete.
8. See Std. Dwg. RD339 for pipe to structure connections.
9. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

AREA DRAINAGE BASIN OR FIELD INLET

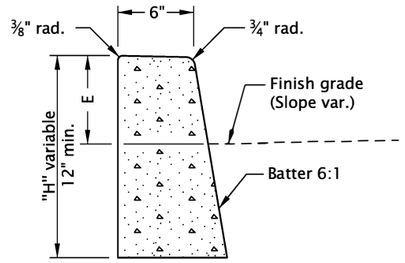
2024

DATE	REVISION DESCRIPTION

rd374.dgn 20-JUL-2020

RD374

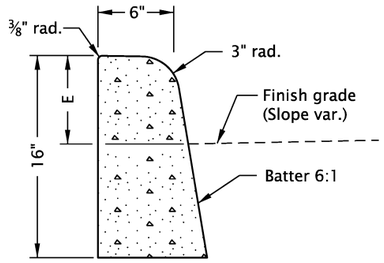
Effective Date: January 1, 2024- December 31, 2024



City of The Dalles Standard "H"=16"

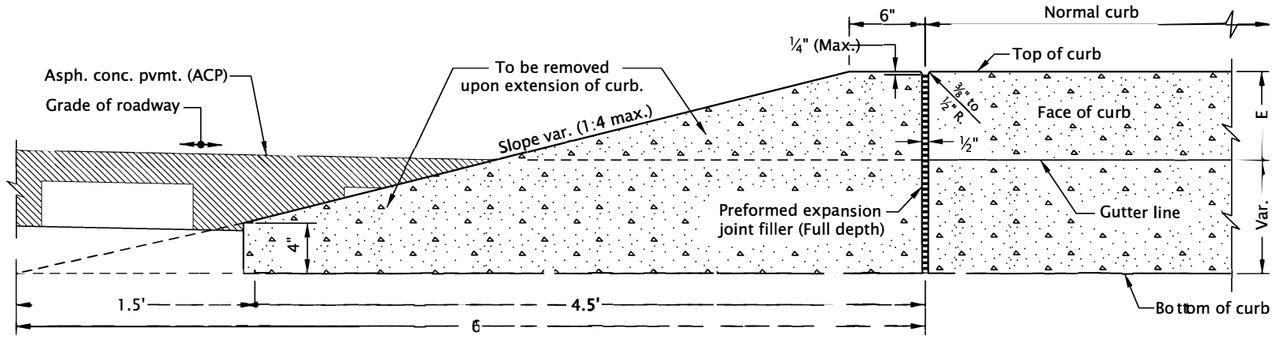
STANDARD CURB

(See general note 11)

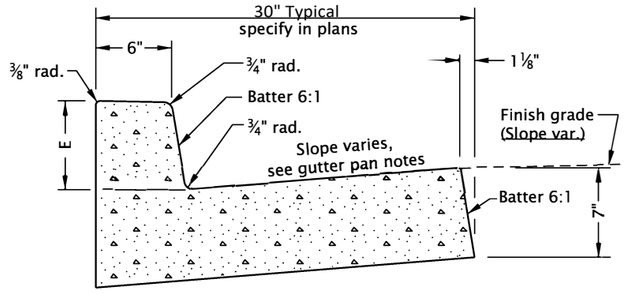


MOUNTABLE CURB

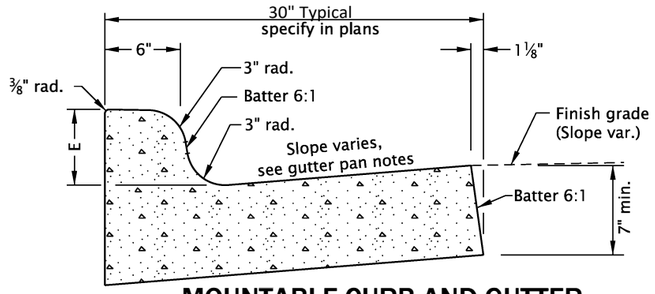
(See general note 11)



CURB ENDING DETAIL



CURB AND GUTTER



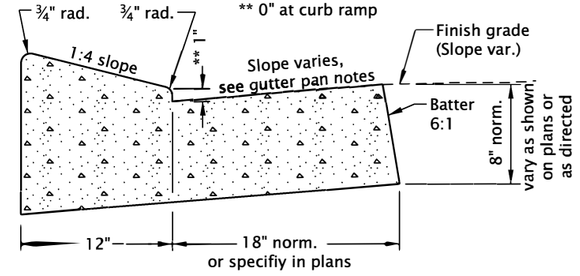
MOUNTABLE CURB AND GUTTER

GUTTER PAN NOTES:

Slope 5.0% normal.

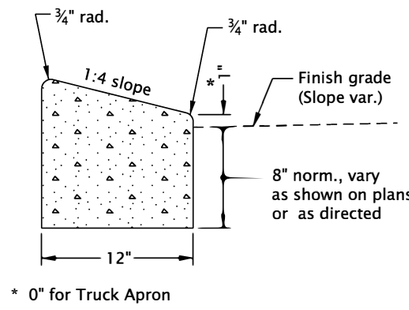
Slope 4.0% max. at curb ramps.

Vary slope as reqd. for drainage.
Vary where shown on plans.



LOW PROFILE MOUNTABLE CURB AND GUTTER

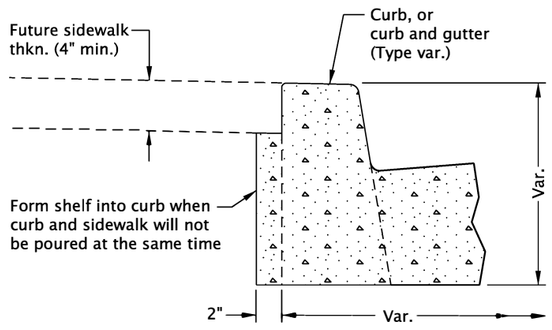
(Where shown on plans)



* 0" for Truck Apron

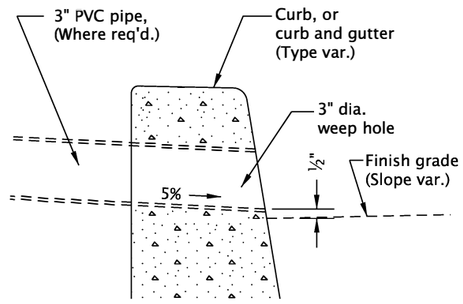
LOW PROFILE MOUNTABLE CURB

(See general note 11)



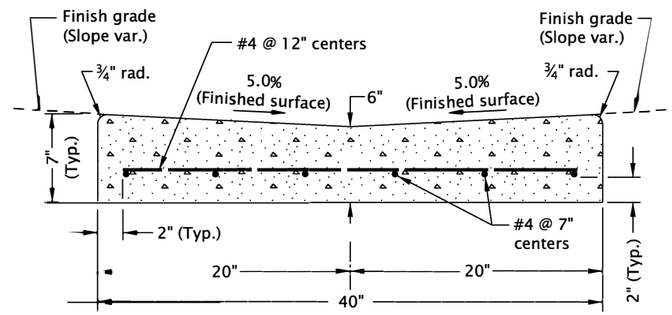
MODIFICATION FOR KEYWAY

(Where shown on plans)



WEEP HOLE DETAIL

(Where shown on plans)



VALLEY GUTTER

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. City of The Dalles standard "E"= 6".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".
5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series
11. Curb and gutter is required at curb ramp.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

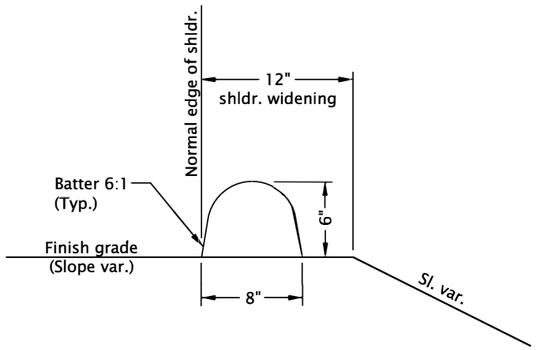
CURBS

2024

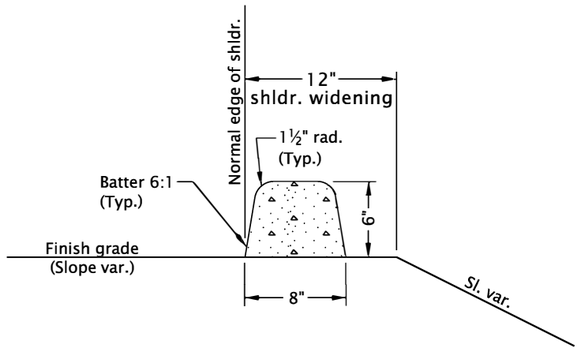
DATE	REVISION DESCRIPTION

rd700.dgn 20-JUL-2020

RD700



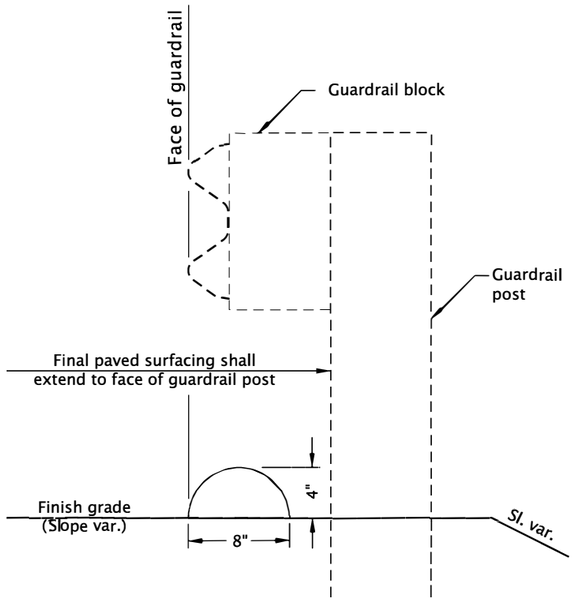
ASPHALT CONCRETE



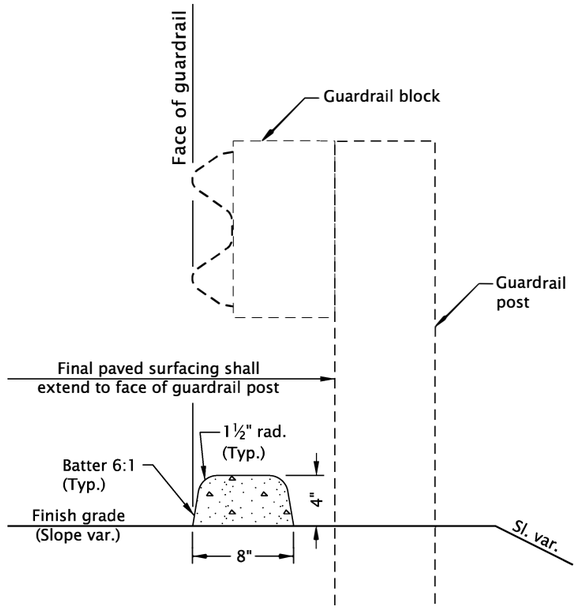
PORTLAND CEMENT CONCRETE

DRAINAGE CURBS

(See general note 4)



ASPHALT CONCRETE



PORTLAND CEMENT CONCRETE

DRAINAGE CURBS UNDER GUARDRAIL

(See general note 4)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For PCC drainage curbs, construct curb expansion joints at 200' maximum spacing, and at points of tangency.
2. For PCC drainage curbs, construct curb contraction joints at 15' maximum spacing.
3. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
4. When bonding to dense graded ACP, apply epoxy cement between surfaces.
5. When drainage curb is required, curb alignment shall be the same as face of guardrail, as shown above. When a run of drainage curb, or any part thereof, is placed under guardrail, curb height shall be 4".
6. For other curb types, see Std. Dwg. RD700.
7. For guardrail details not shown, see Std. Dwg. RD400.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

DRAINAGE CURBS

2024

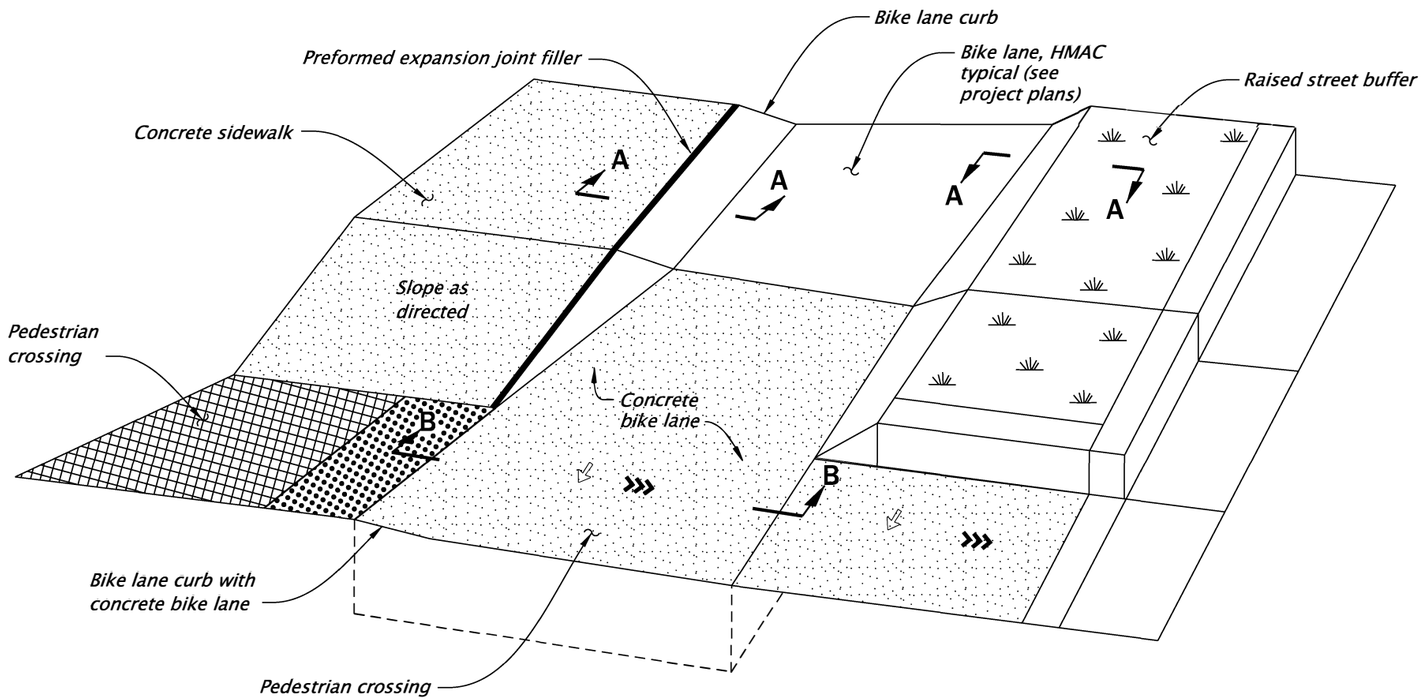
DATE	REVISION DESCRIPTION

rd701.dgn 20-JUL-2020

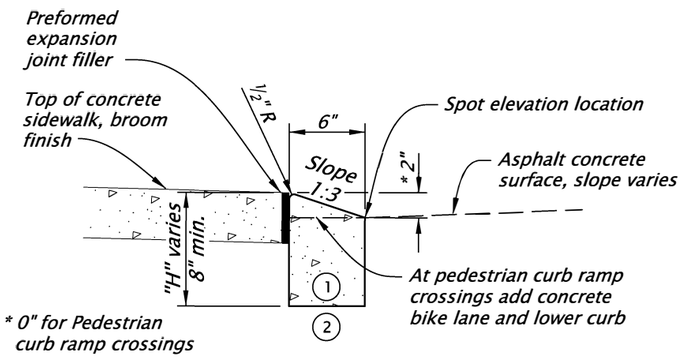
RD701

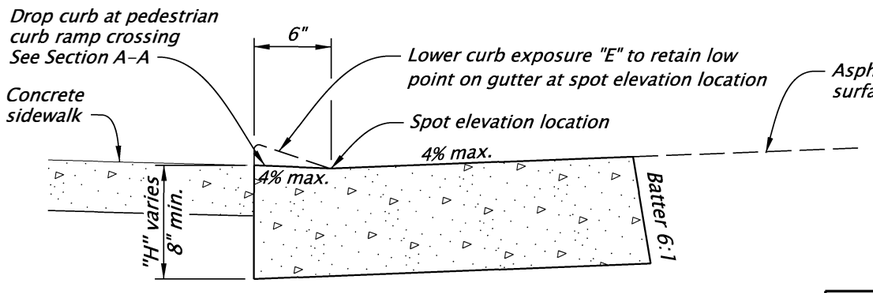
14-JAN-2022

RD702.dgn



BIKE LANE CURB WITH CONCRETE BIKE LANE ISOMETRIC VIEW





SECTION A-A
BIKE LANE CURB
(Where shown on plans)

1. *Control joints cut at 15' intervals, minimum 2" depth*
2. *Place a minimum of 6" approved granular base at 95% MPD (¾" Minus crushed granular)*

SECTION B-B
BIKE LANE CURB WITH CONCRETTE BIKE LANE
(Where shown on plans)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Bike Lane Curb details are based on applicable ODOT Standards.*
2. *Lower bike lane curb at all curb ramp pedestrian crossings.*
3. *Bike lane curb may continue across driveways or be lowered per curb ramps. See project plans.*
4. *On separated bike lanes (where bike lane is apart from road shoulder), gutter pan shall not end in bike lane.*
5. *On or along state highways, where curb and gutter is required at curb ramps, add concrete bike lane to bike lane curb at curb ramps and at inlets.*
6. *Omit preformed expansion joint filler at curb ramps and where landscaping is adjacent to curb.*
7. *Transition between curb styles to connect curbs of different exposures "E". Transition length shall be 3' for each 1" difference in "E" unless specified in project plans.*
8. *Check the gutter flow depth to assure that the design flood does not spread across more than 2-feet of the bike lane and does not overtop the back of sidewalk at curb ramps. Place inlet in curb at low points and at upstream side of curb ramps or perform other approved design mitigation. Transition to standard curb on each side of inlet by lowering bike lane. See dwg. no. RD367.*
9. *Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.*
10. *See dwg. nos. RD720 and RD727 for monolithic curb and sidewalk details. See dwg. nos. RD900 series for curb ramp details. See dwg. no. RD1140 for layout of separated bike lane crossings details.*

LEGEND:

- *Sidewalk or other traversable surface*
- *Detectable warning surface (DWS)*
- *Level area (turning space/landing)*
- *Running slope, 4.0% maximum. (Maximum 4.9% finished surface slope)*
- *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope)*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

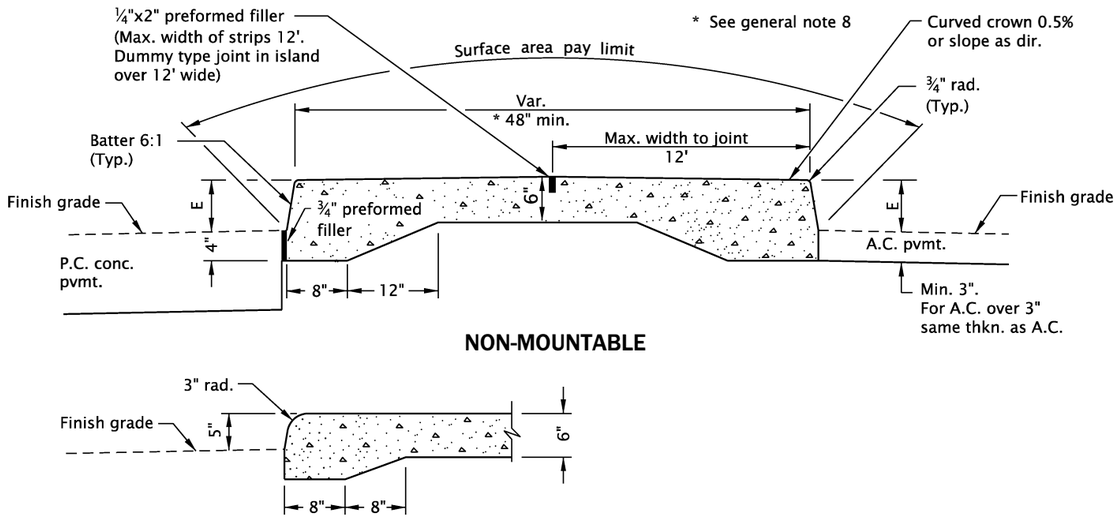
BIKE LANE CURBS

2024

DATE	REVISION DESCRIPTION
12-2021	NEW DRAWING CREATED

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD702**

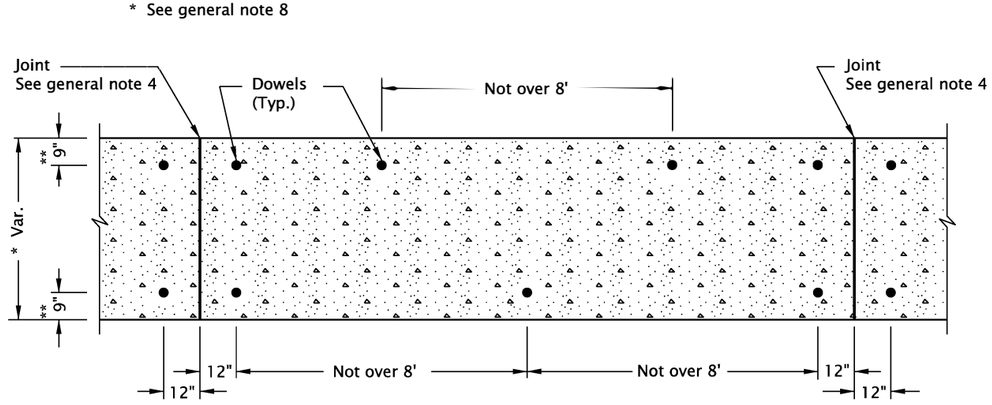
Effective Date: January 1, 2024 - December 31, 2024



NON-MOUNTABLE

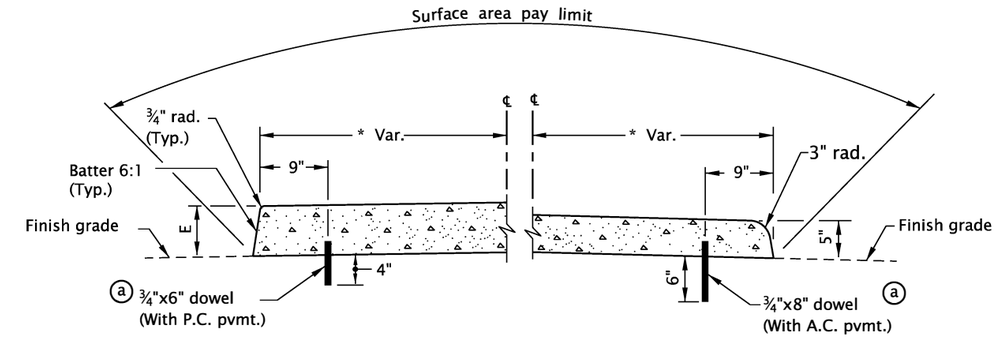
MOUNTABLE
(For surfacing details not shown, see above)

TYPE A



DOWEL PLAN
FOR TYPE C OR TYPE CA ISLANDS & TRANSITIONS
(ON SURFACE OF NEW OR EXISTING PAVEMENT)

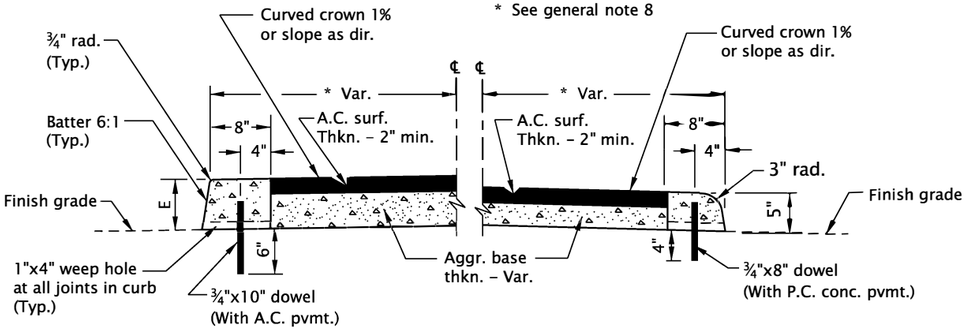
** Also see below for type CA island requirement.



NON-MOUNTABLE **MOUNTABLE**

Ⓐ No dowels reqd. for Type C islands 5' wide or wider

TYPE C



NON-MOUNTABLE **MOUNTABLE**

TYPE CA

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" normal. Vary as shown on plans or as directed.
2. Standard batter is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. islands to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. islands in conc. pvmt. and around all curved ends.
6. Dowels shall be ¾" dia. with length as shown.
   In new conc. pvmt. set dowels before conc. hardens.
   In extg. conc. pvmt. drill holes 1½" dia. and grout dowels in.
   In A.C. pvmt. drive dowels.
7. For transitions to traffic separators, see Std. Dwg. RD706.
8. Minimum island width is 48". For accessible route islands, see Std. Dwg. RD710.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 16-JUL-2018

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

ISLANDS

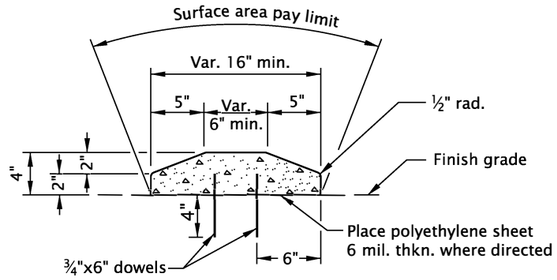
2024

DATE	REVISION DESCRIPTION

RD705

rd705.dgn 20-JUL-2020

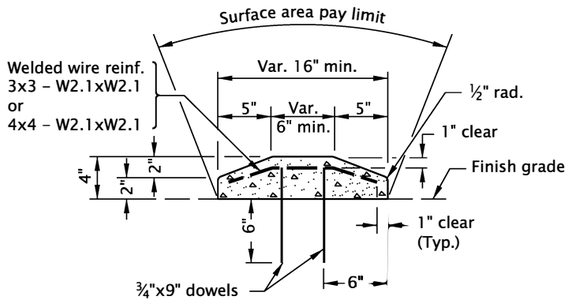
Effective Date: **January 1, 2024 - December 31, 2024**



SECTION B-B

TYPE A

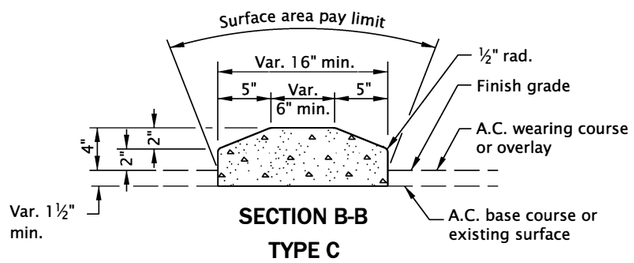
TRAFFIC SEPARATOR ON P.C. CONC. PVMT.



SECTION B-B

TYPE B

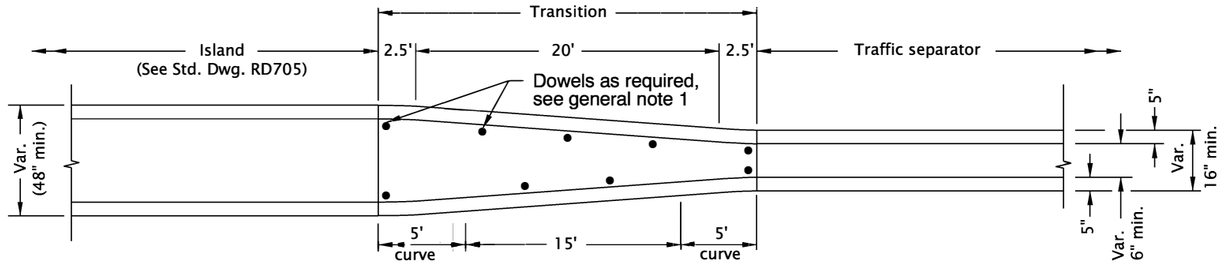
TRAFFIC SEPARATOR ON EXTG. A.C. PVMT.



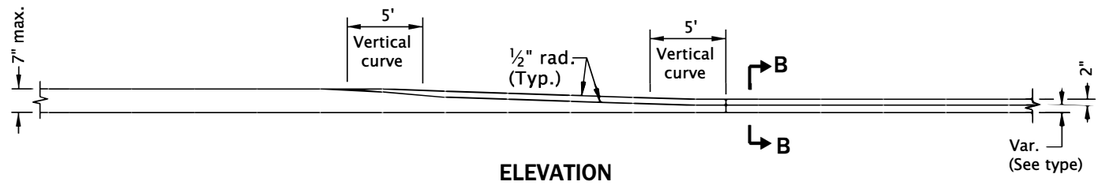
SECTION B-B

TYPE C

TRAFFIC SEPARATOR ON NEW A.C. PVMT. OR ON EXISTING A.C. PVMT. WITH OVERLAY

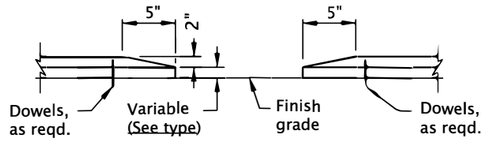


PLAN

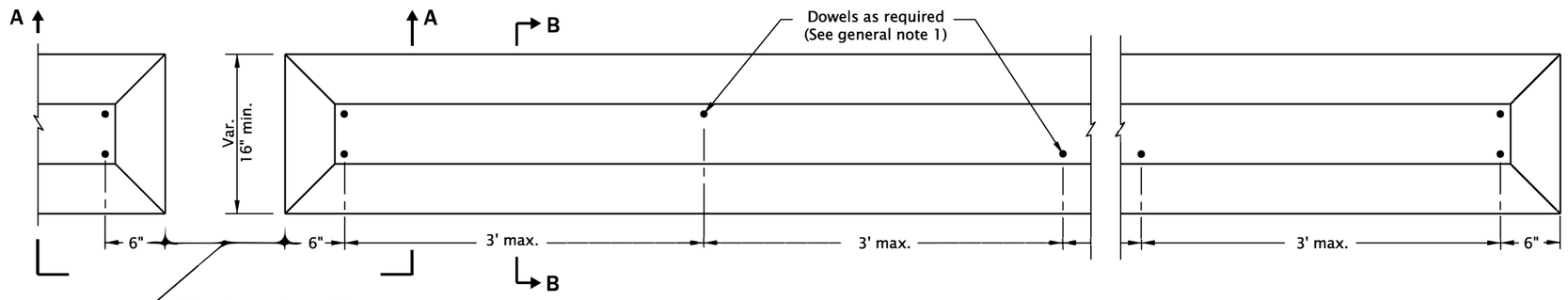


ELEVATION

TRANSITION FROM ISLAND TO TRAFFIC SEPARATOR



SECTION A-A



CONCRETE TRAFFIC SEPARATOR

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. In transitions conform to dowel plan per Std. Dwg. RD705.
2. Standard slope face is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. traffic separators and transitions to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. transitions in conc. pvmt. and around all curved ends.
6. Dowels shall be ¾" dia. with length as shown. In new conc. pvmt. set dowels before conc. hardens. In extg. conc. pvmt. drill holes 1½" dia. and grout dowels in. In A.C. pvmt. drive dowels.
7. Site conditions normally require a project specific drain opening spacing design, which considers roadway conditions (sheet flow limits, cross slope, superelevation, profile, pavement type, lane and shoulder widths, etc.).

CALC. BOOK NO. N/A

SDR DATE 30-NOV-2009

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

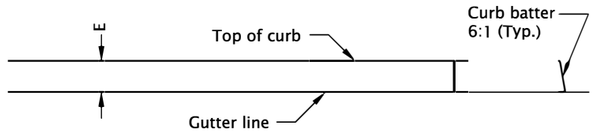
TRAFFIC SEPARATORS AND TRANSITIONS

2024

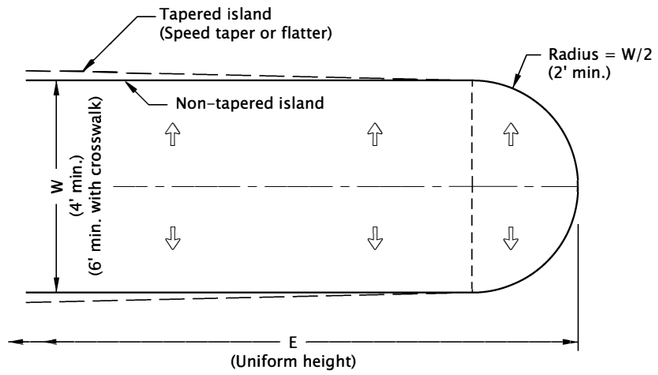
DATE	REVISION DESCRIPTION

rd706.dgn 20-JUL-2020

RD706

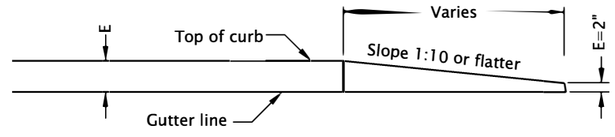


ELEVATION

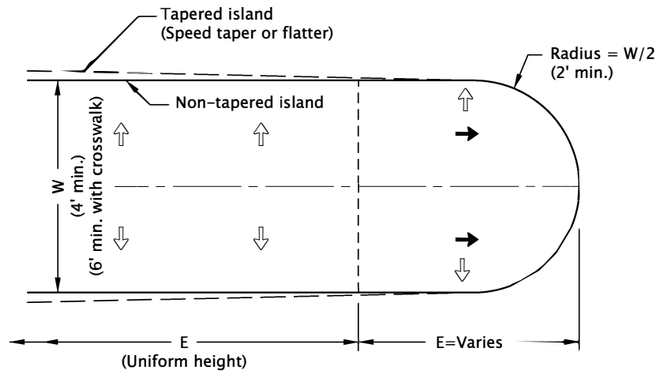


PLAN

OPTION "A"

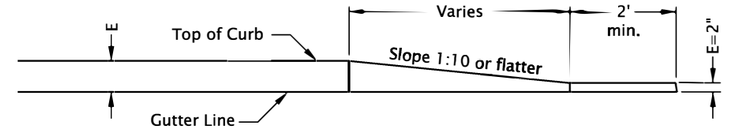


ELEVATION

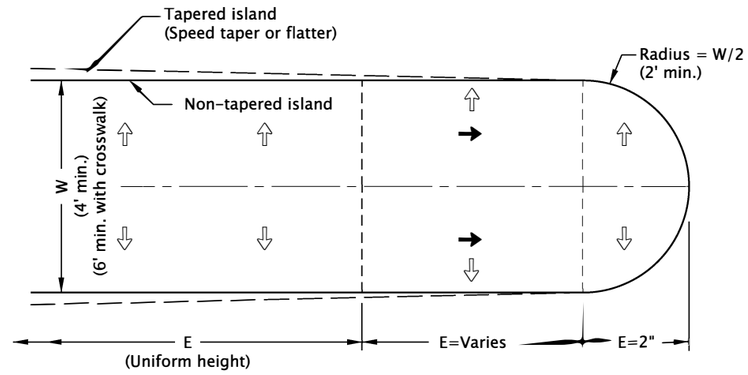


PLAN

OPTION "B"



ELEVATION



PLAN

OPTION "C"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb type and median width as shown on plans or as directed.
2. Curb exposure "E" = 6" normal. Vary as shown on plans or as directed.
3. Standard batter is shown. Vary as shown on typical section or as directed.
4. See Std. Dwgs. RD700, RD701, RD705, RD706 & RD710 for additional details.
5. Site conditions normally require a project specific design, which considers roadway conditions (s heet flow limits, cross slope, superelevation, profile, pavement type, lane and shoulder widths, etc.).
6. See Std. Dwg. RD710 for accessible route islands.

⇨ Slope (2.0% normal)

➔ Slope (varies)

E Curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 22-JUL-2016

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

ISLAND NOSE TREATMENTS

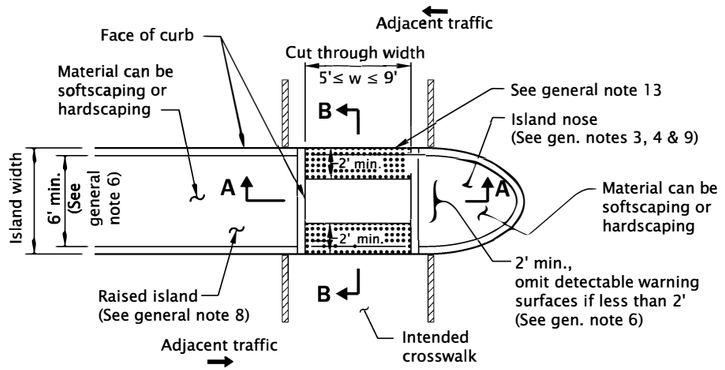
2024

DATE	REVISION DESCRIPTION

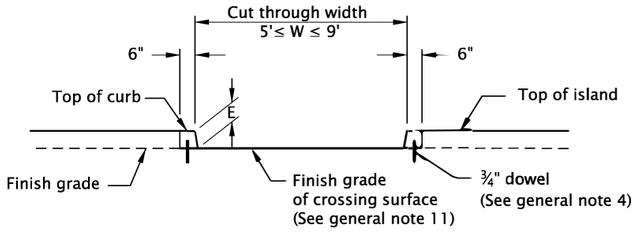
rd707.dgn 20-JUL-2020

RD707

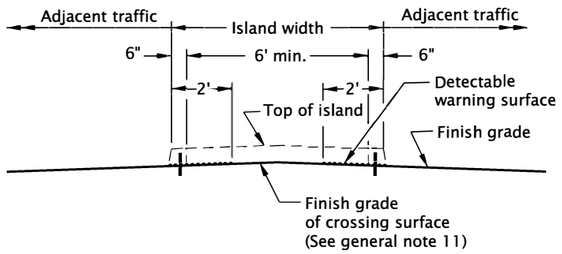
Effective Date: January 1, 2024 - December 31, 2024



PLAN



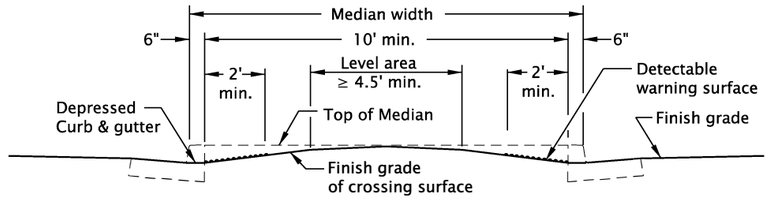
SECTION A-A



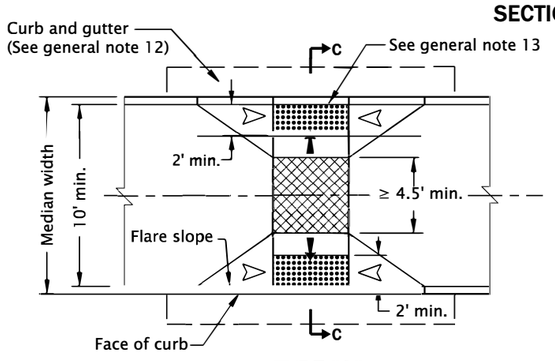
SECTION B-B

MEDIAN ISLAND CROSSING (CUT THROUGH)

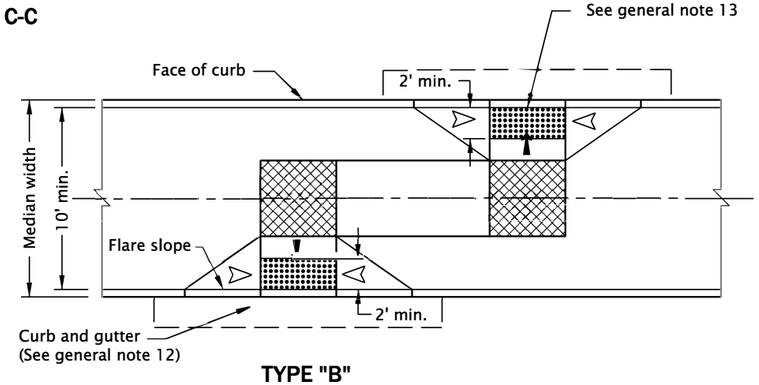
(A.C. pavement shown)



SECTION C-C



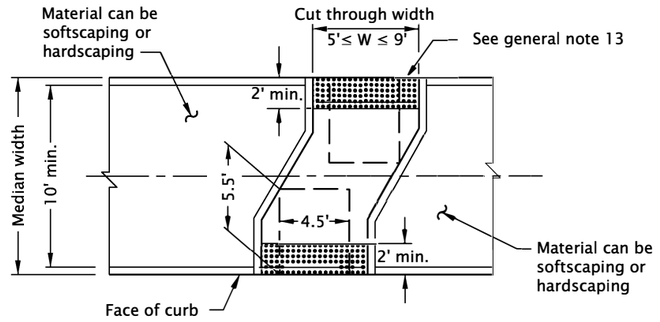
TYPE "A"



TYPE "B"

MEDIAN RAISED CROSSING

(P.C. conc. surface shown)



MEDIAN CUT-THROUGH CROSSING

(Asph. conc. surface shown)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Accessible route islands are based on applicable ODOT Standards.
2. Place detectable warning surface at the back of curb for a minimum depth of 2 feet at curb ramp that is adjacent to traffic. For details not shown, see Std. Dwgs. RD902 through RD908.
3. The minimum area of islands that contain signal poles, pedestals, etc., shall be 75 square feet. Square feet to be measured to outer perimeter of entire island.
4. For cut through islands, dowel each island segment to the pavement with a minimum of two ¾" diameter dowels. Dowel the nose section of the raised median island with a minimum of two ¾" diameter dowels. Place dowels as directed. See Std. Dwg RD705.
5. Align curb ramps for lowered or partially lowered island and cut through island with the crosswalk.
6. Detectable warning surfaces shall be separated by a 2-foot minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see Std. Dwg. RD705.
9. See project plans for details not shown. See Std. Dwg. RD707 for island nose treatment. See Std. Dwg. RD705 for expansion and contraction joint spacing. See Std. Dwgs. RD700, RD701, RD705, RD706 & RD755 for additional details. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.
10. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.
11. When crossing surface grade is <; 5%, a level area is not required.
12. Curb and gutter is required at curb ramps.
13. Raised islands in crossings shall have accessible ramps at both sides or be cut through with the street.

LEGEND:

- Marked or intended crossing location
- Level area (Turning space/landing) Unobstructed 4.5' x 4.5' With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing). For the purposes of this application, a max. 2.0% finished surface slope (for drainage) is considered level.
- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Flare slope (Max. 10.0% finished surface slope)
- Zero curb exposure
- Clear space 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing)

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

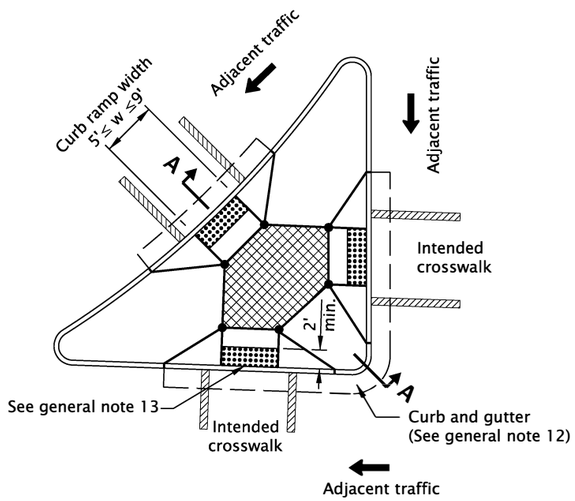
CITY OF THE DALLES STANDARD DRAWINGS

ACCESSIBLE ROUTE ISLANDS

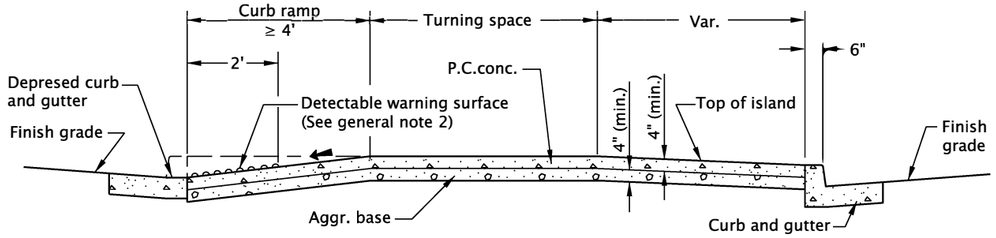
2024

DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS AND NOTES

rd710.dgn 19-JUL-2021



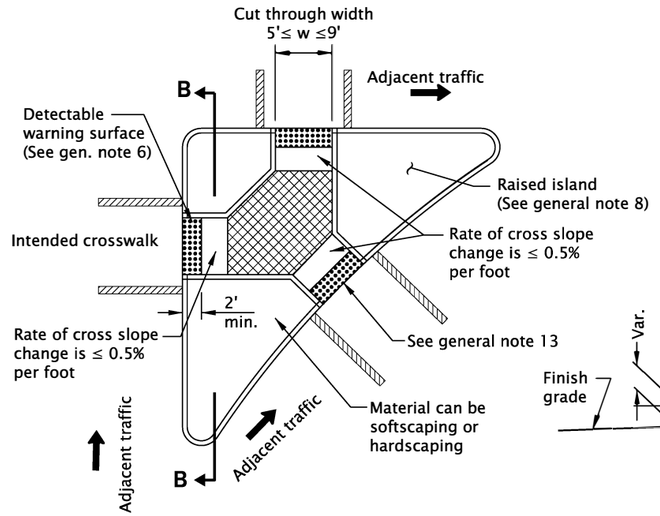
PLAN VIEW



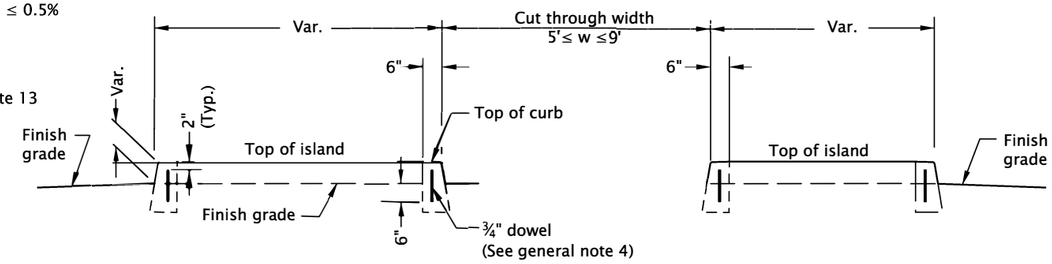
SECTION A-A

PARTIALLY LOWERED ISLAND DETAIL

(Use perpendicular curb ramp inspection form)



PLAN VIEW



SECTION B-B

CUT THROUGH ISLAND DETAIL

RAISED RIGHT TURN CHANNELIZATION ISLAND

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Accessible route islands are based on applicable ODOT Standards.
2. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic. For details not shown, see Std. Dwgs. RD902 through RD908.
3. The min. area of islands that contain signal poles, pedestals, etc., shall be 75 sq. ft. Square feet to be measured to outer perimeter of entire island.
4. For cut through islands dowel each island segment to the pvmt. with a min. of 2, 3#4" dia. dowels. Dowel the nose section of the raised median island with a minimum of 2, 3#4" dia. dowels. Place dowels as directed. See Std. Dwg RD705.
5. Align curb ramps for lowered or partially lowered island and cut through island with the crosswalk.
6. Detectable warning surfaces shall be separated by a 2.0 ft minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see Std. Dwg. RD705.
9. See project plans for details not shown. See Std. Dwg. RD707 for island nose treatment. See Std. Dwg. RD705 for expansion and contraction joint spacing. See Std. Dwgs. RD700, RD701, RD705, RD706 & RD755 for additional details. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.
10. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.
11. When crossing surface grade is :,;; 5%, a level area is not required.
12. Curb and gutter is required at curb ramps.
13. Raised islands in crossings shall have accessible ramps at both sides or be cut through with the street.

LEGEND:

- Marked or intended crossing location
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Zero curb exposure

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

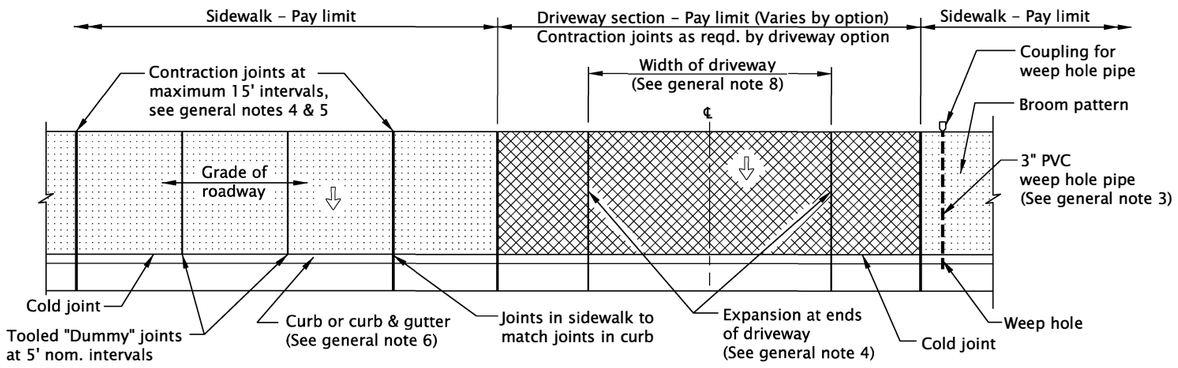
CITY OF THE DALLES STANDARD DRAWINGS

ACCESSIBLE ROUTE CHANNELIZED ISLANDS

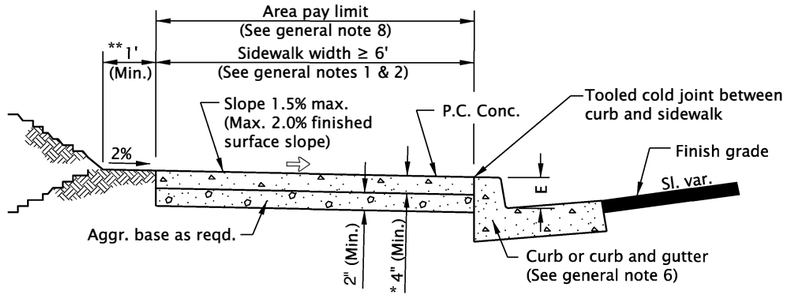
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED NOTES

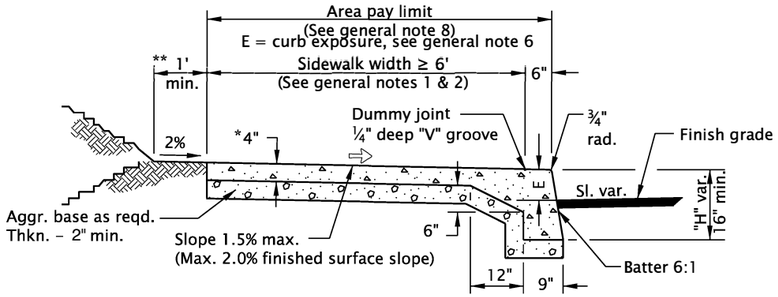
rd711.dgn 19-JUL-2021



TYPICAL PLAN VIEW - CURB LINE SIDEWALK



TYPICAL CURB SIDEWALK CROSS SECTION



TYPICAL MONOLITHIC CURB & SIDEWALK CROSS SECTION

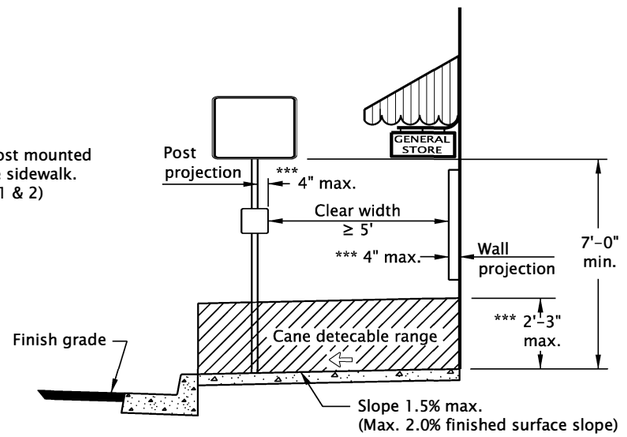
MUST BE APPROVED BY CITY ENGINEER; E = curb exposure, see general note 6

* Min. 4" or as specified in plans. A thickness ≥ 6" if sidewalk is intended as portion of a driveway or mountable curb is used.

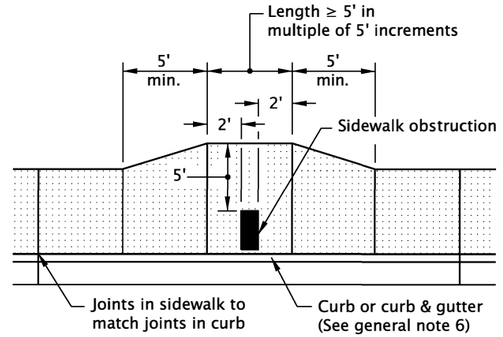
** Provide compacted backfill adjacent to curb and sidewalk

*** Objects with base below 2'-3" may protrude any distance as long as the 5' circulation path is maintained. When an object with a base higher than 2'-3" protrudes further than 4" provide a detection below protrusion to delineate edge.

Building, wall, or post mounted obstruction outside sidewalk. (See general notes 1 & 2)



CLEAR CIRCULATION PATH



REQUIRED SIDEWALK WIDENING AROUND OBSTRUCTIONS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. 5' wide sidewalk allowed as infill. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joints details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joints details.
6. For curb details, see Std. Dwgs. RD700 & RD701. City of The Dalles standard E=6".
7. Sidewalk details are based on applicable ODOT standards.
8. Fully lowered sidewalk shown; see project plans for the diveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

LEGEND

- Sidewalk pay limit.
- Driveway pay limit, varies by option, (See general note 8).
- ⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

CURB LINE SIDEWALKS

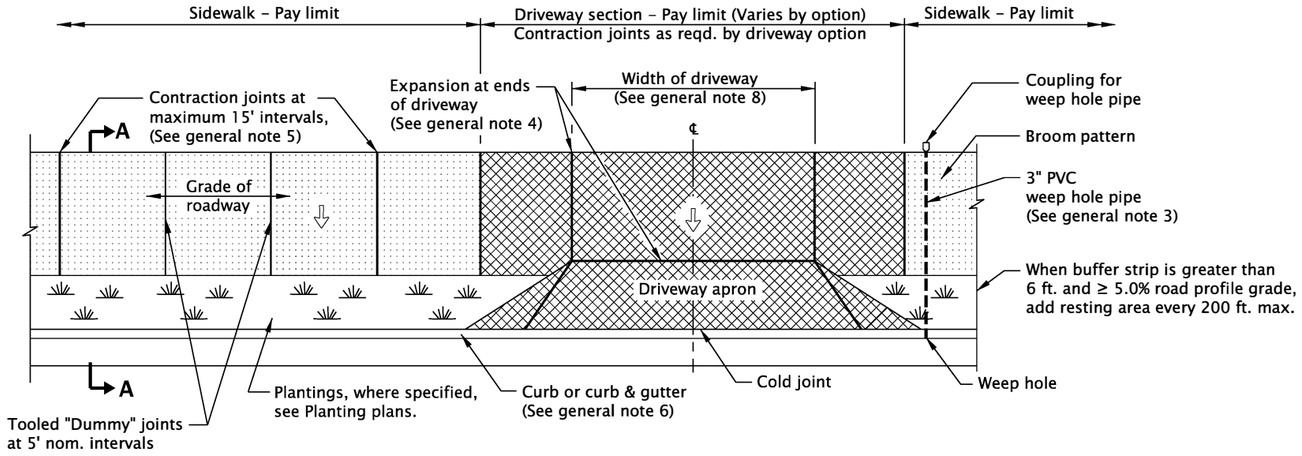
2024

DATE	REVISION DESCRIPTION

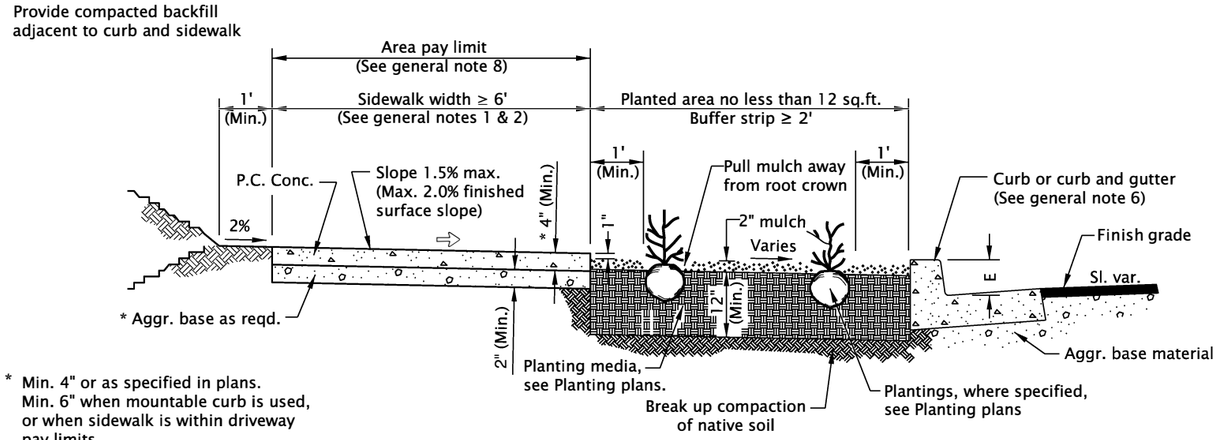
rd720.dgn 20-JUL-2020

RD720

Effective Date: January 1, 2024 - December 31, 2024



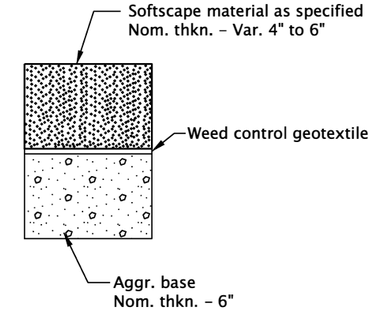
TYPICAL PLAN VIEW - SEPARATED SIDEWALK



SECTION A-A

TYPICAL SETBACK SIDEWALK CROSS SECTION

E = curb exposure, see general note 6



NON-PLANTED SOFTSCAPE CROSS SECTION

NOTES:
1 Use softscape materials allowed by jurisdiction.
2. Approved softscape materials:
   a) Loose, durable round rock 2"–4"in diameter
   b) Lava rock 2"–4"diameter
   c) Wood chips/bark mulch
   d) Sand
3. No crushed aggregate or pea gravel allowed.
4. Install softscape material flush with the top of sidewalk.

LEGEND

Sidewalk pay limit.

Driveway pay limit, varies by option, (See general note 8).

⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. 5' sidewalk width allowed as infill. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joint details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joint details.
6. Curb and gutter shown; see project plans for the curb design specified. For curb details, see Std. Dwgs. RD700 & RD701. City of The Dalles standard E=6".
7. Sidewalk details are based on ODOT applicable standards.
8. Driveway encroaches into sidewalk shown; see project plans for the driveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.
10. Provide plantings in areas 12 SF or greater, as shown or directed. Treat areas less than 12 SF with mulch surfacing.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

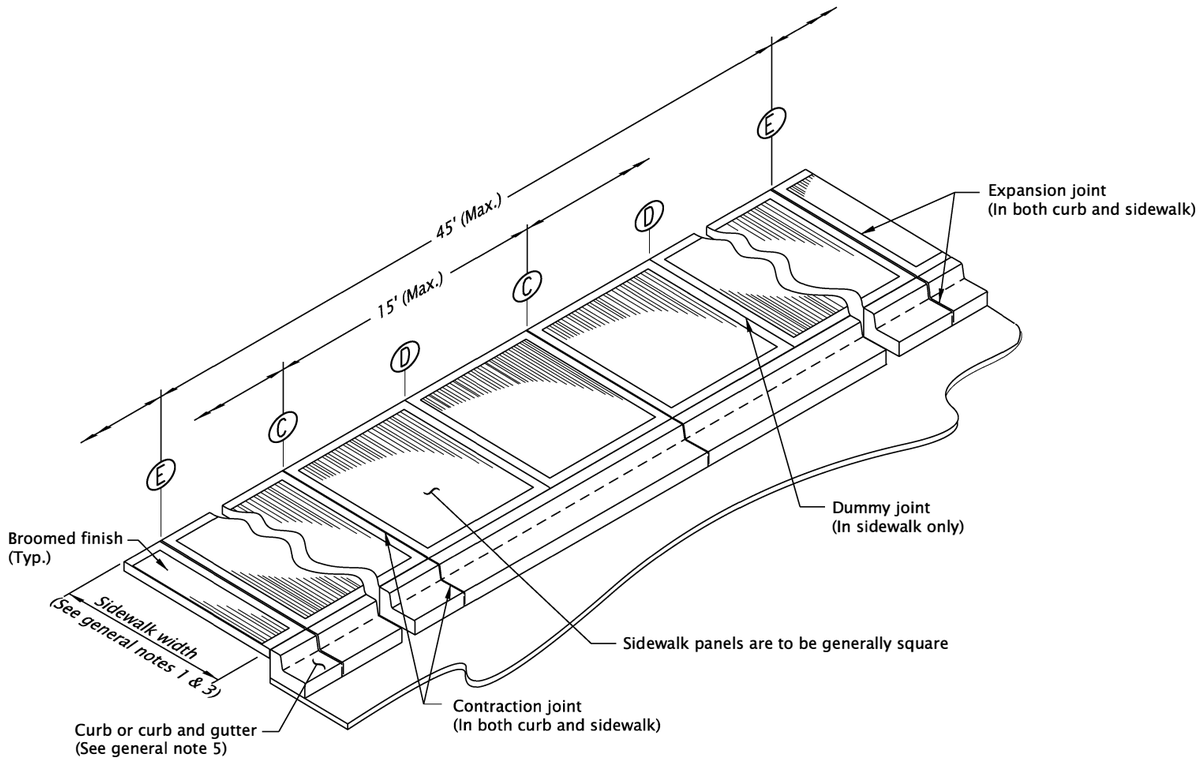
SEPARATED SIDEWALKS

2024

DATE	REVISION DESCRIPTION

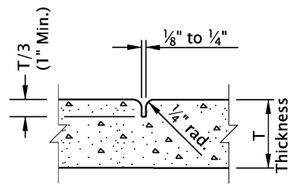
rd721.dgn 20-JUL-2020

RD721

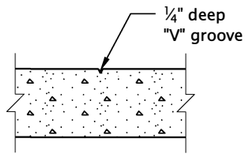


JOINT DETAIL

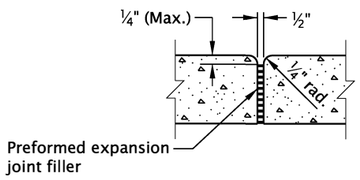
(Curb line sidewalk with curb and gutter shown)



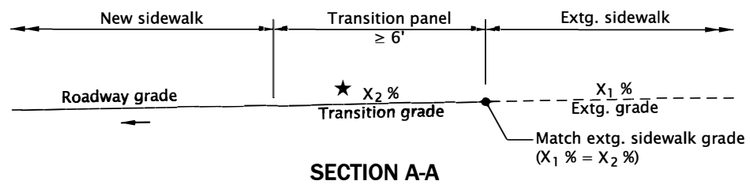
Ⓒ **CONTRACTION JOINT**
(See general note 6)



Ⓓ **DUMMY JOINT**

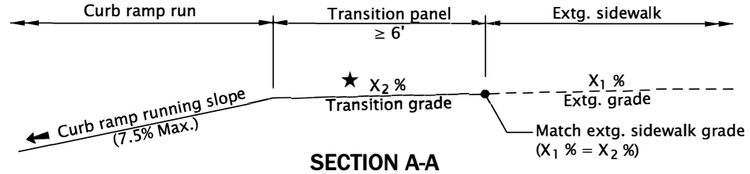


Ⓔ **EXPANSION JOINT**
(See general notes 2 & 5)

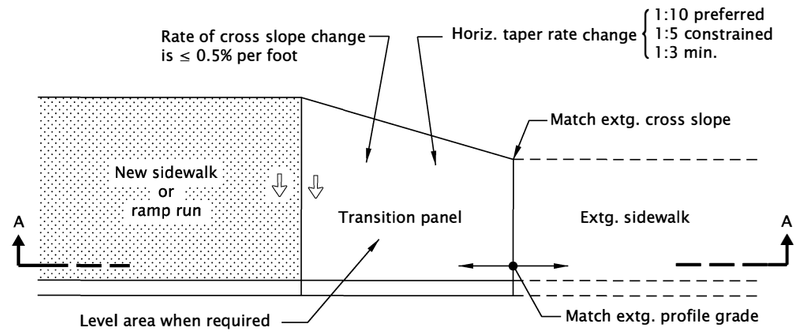


SECTION A-A
(SIDEWALK TRANSITION PANEL SHOWN)

★ Project the existing sidewalk profile grade through transition panel to new sidewalk or curb ramp run.



SECTION A-A
(CURB RAMP TRANSITION PANEL SHOWN)



PLAN

SIDEWALK AND CURB RAMP TRANSITION PANELS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD720 & RD721 for concrete sidewalk details. See project plans for sidewalk width, placement and design specified.
2. Provide expansion joints around poles, boxes, at ends of each driveway and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb and sidewalk, construction expansion joints at 45' max. spacing.
3. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint of sidewalk panel.
4. See Std. Dwgs. RD700 & RD701 for concrete curb details. See project plans for the curb design specified.
5. For curb ramps, do not place expansion joints within the limits of curb ramps and between separate concrete pours.
6. Const. contraction joints at 15' max. spacing, and at each curb ramp, driveway, sidewalk and curb.

LEGEND:

- New sidewalk or ramp run
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max. (Max. 8.3% finished surface slope)
- ● Zero exposure

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

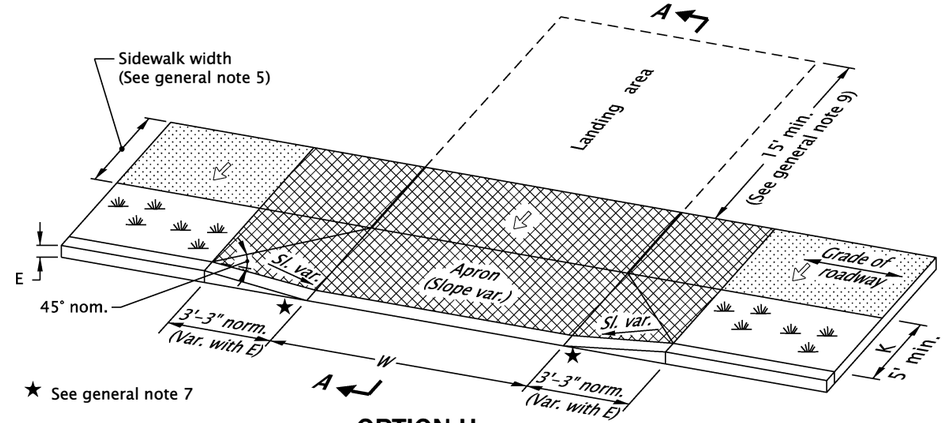
CITY OF THE DALLES STANDARD DRAWINGS

SIDEWALK JOINTS AND TRANSITION PANELS

2024

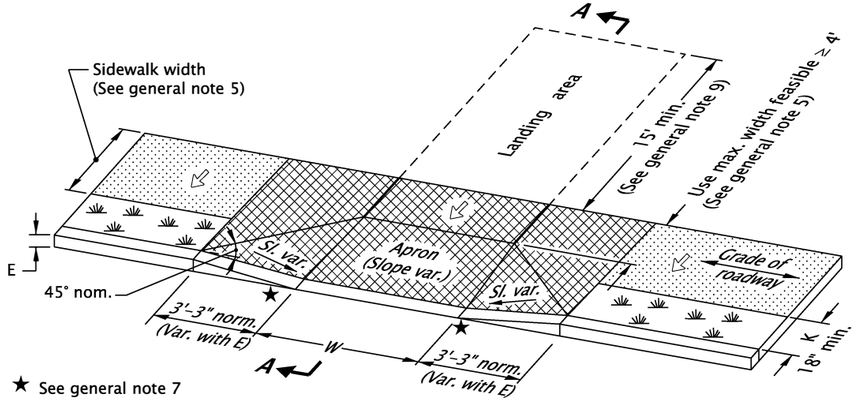
DATE	REVISION DESCRIPTION

RD722

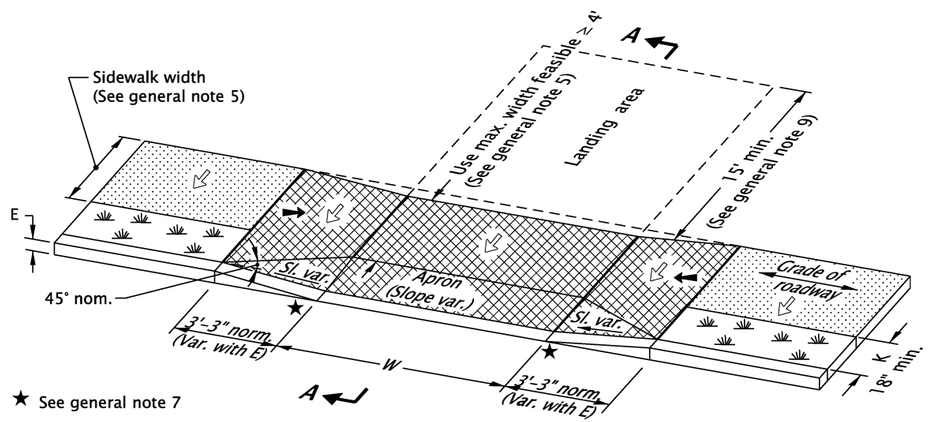


OPTION H
TYPICAL SEPARATED SIDEWALK DRIVEWAY

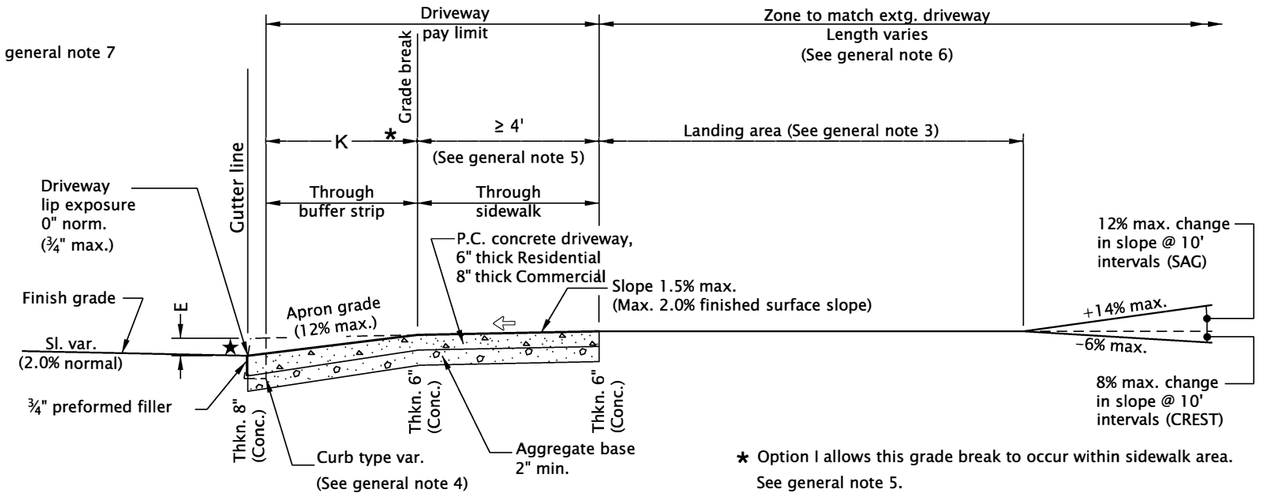
(Use one of the options below if slope requirements shown in Section A-A cannot be met)



OPTION I
DRIVEWAY ENCROACHES INTO SIDEWALK



OPTION J
LOWERED SIDEWALK



★ Option I allows this grade break to occur within sidewalk area. See general note 5.

SECTION A-A

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on applicable ODOT Standards.
2. Only use details approved by City.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, buffer strip width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD721 for sidewalk details.
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much landing area as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 15' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.

LEGEND:

- Sidewalk
- Driveway pay limit (See project plans for details not shown)
- ⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max. (Max. 8.3% finished surface slope)

W Width of driveway
K Buffer strip width
E Curb exposure

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

SEPARATED SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS H, I & J)

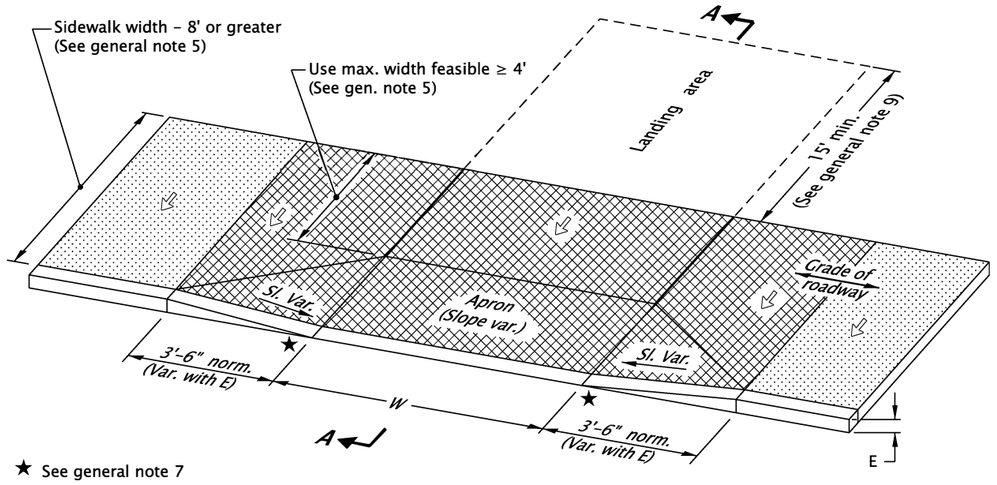
2024

DATE	REVISION DESCRIPTION

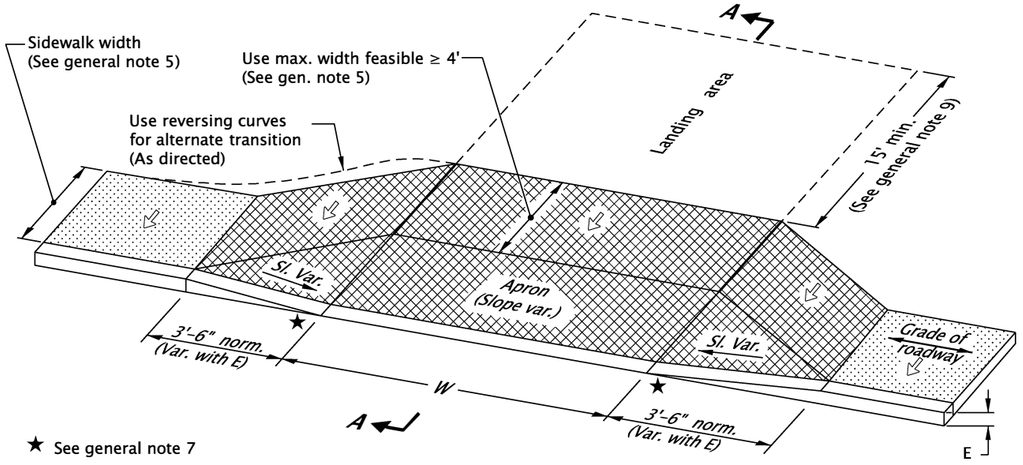
rd740.dgn 20-JUL-2020

RD740

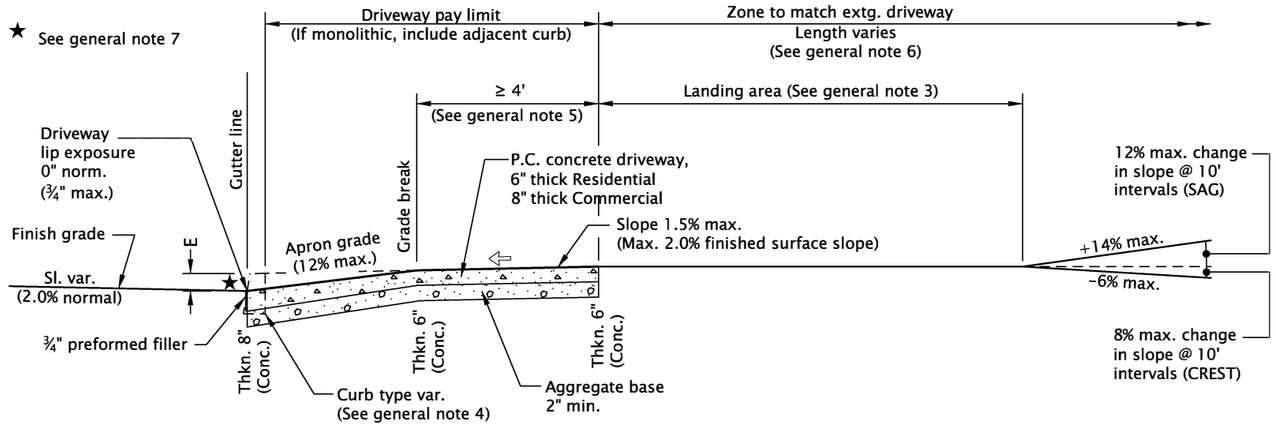
Effective Date: January 1, 2024 - December 31, 2024



OPTION K
DRIVEWAY IN WIDE (8' OR GREATER) SIDEWALK



OPTION L
SIDEWALK WRAPPED AROUND DRIVEWAY



SECTION A-A

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on applicable ODOT Standards.
2. Only use details approved by City.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much landing area as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with ½" preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 15' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.

LEGEND:

	Sidewalk
	Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
⇦	Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
W	Width of driveway
E	Curb exposure

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS K & L)

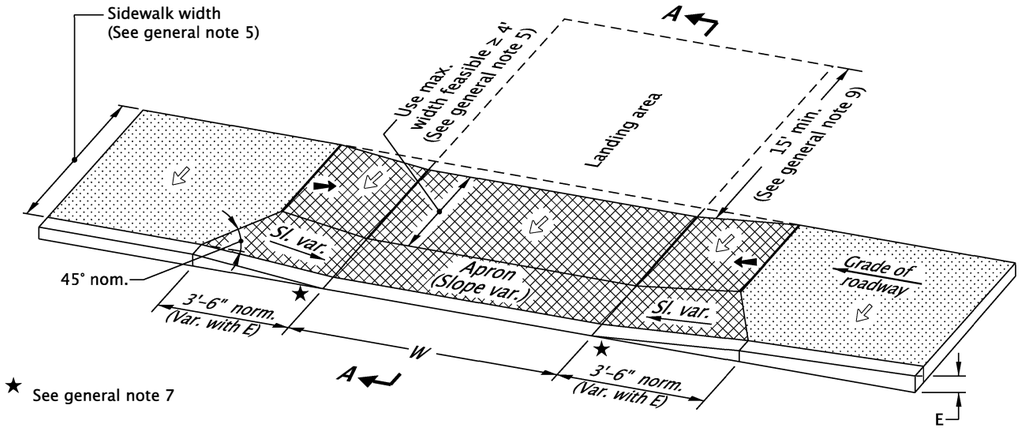
2024

DATE	REVISION DESCRIPTION
07-2021	REVISED NOTES

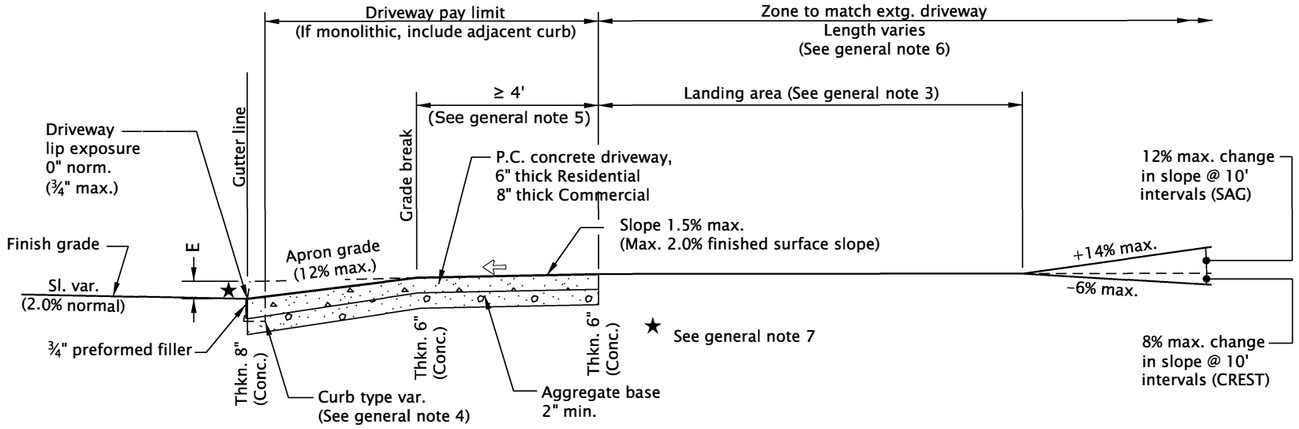
rd745.dgn 19-JULY-2021

Effective Date: January1, 2024 - December 31, 2024

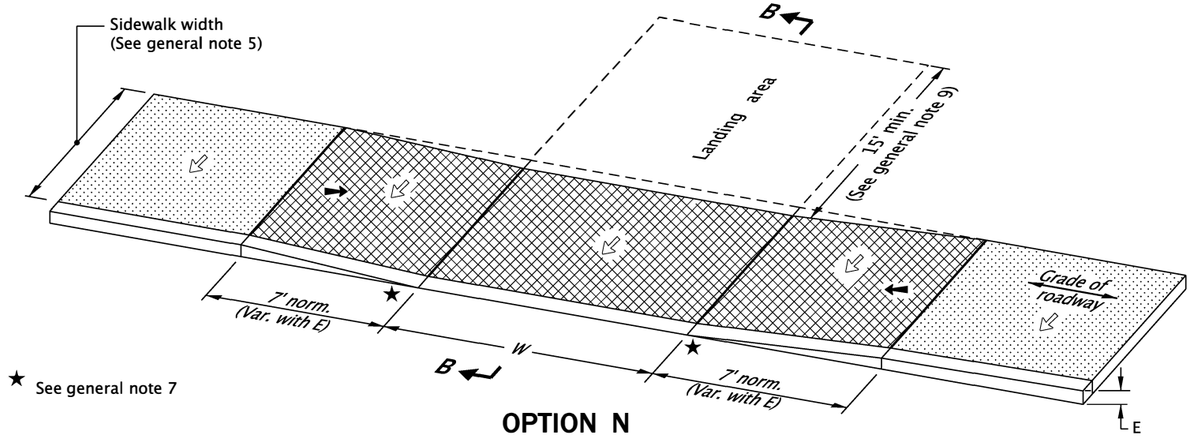
RD745



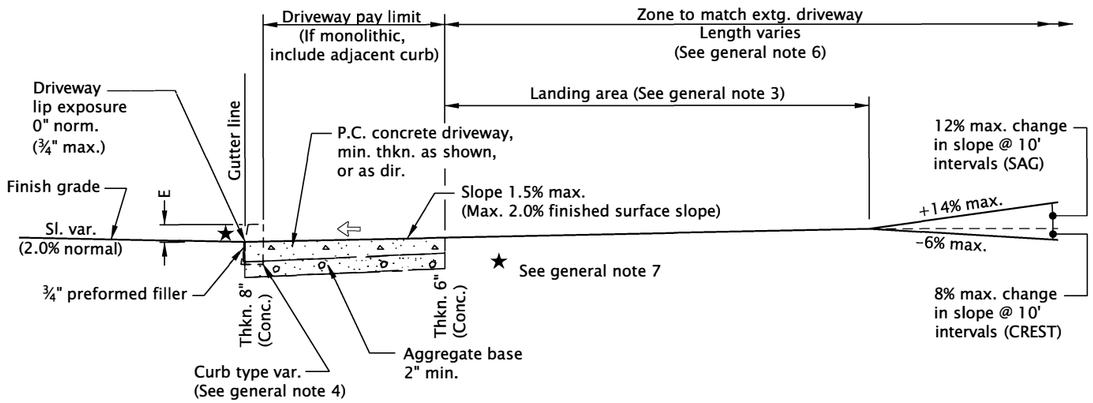
OPTION M
PARTIALLY LOWERED SIDEWALK



SECTION A-A



OPTION N
FULLY LOWERED SIDEWALK



SECTION B-B

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on applicable ODOT Standards.
2. Only use details approved by City.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much landing area as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 15' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.

LEGEND:

- Sidewalk
- Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
- ⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max. (Max. 8.3% finished surface slope)
- W Width of driveway
- E Curb exposure

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS M & N)

2024

DATE	REVISION DESCRIPTION

Effective Date: January 1, 2024 - December 31, 2024

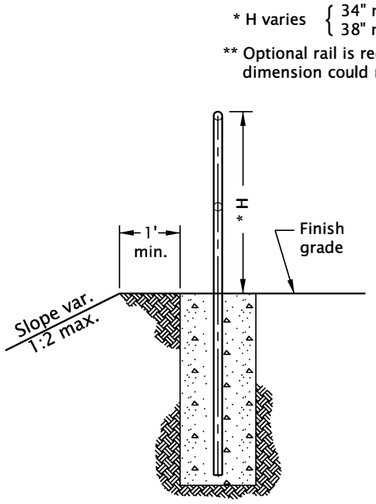
RD750

rd750.dgn 20-JUL-2020

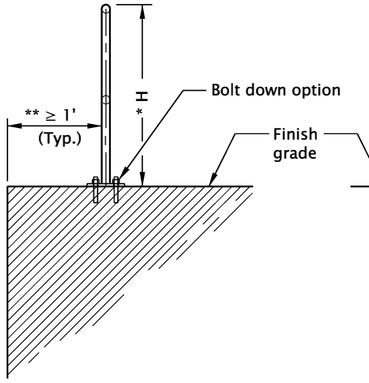
rd770.dgn 20-JUL-2020

* H varies { 34" min. / 38" max.

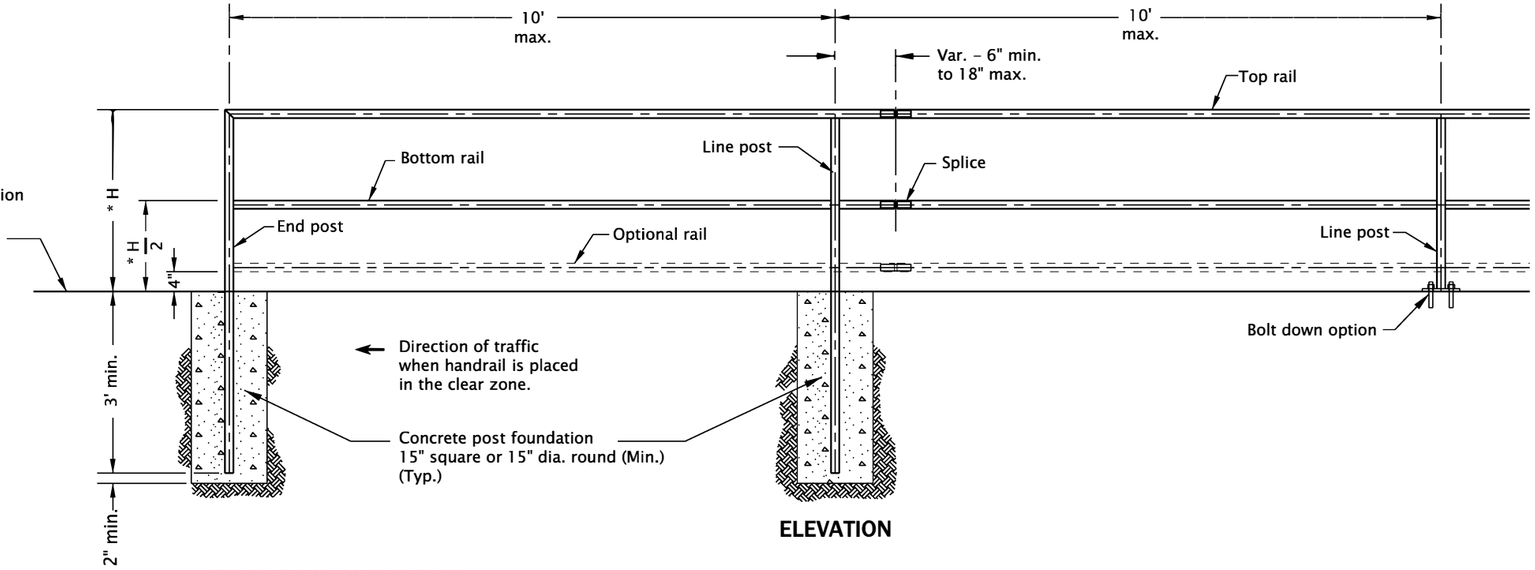
** Optional rail is required when min. 1' dimension could not be meet.



SIDE VIEW (ON GRADE)



SIDE VIEW (ON STRUCTURE)
(See general note 4)

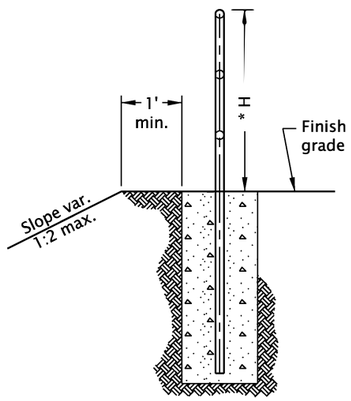


ELEVATION

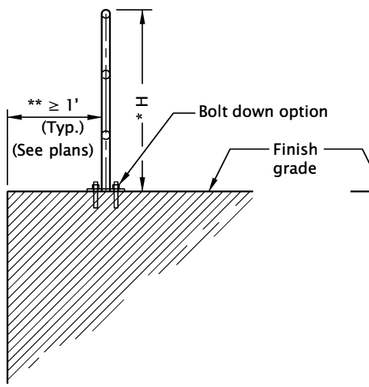
TWO RAIL HANDRAIL

* H varies { 34" min. / 38" max.

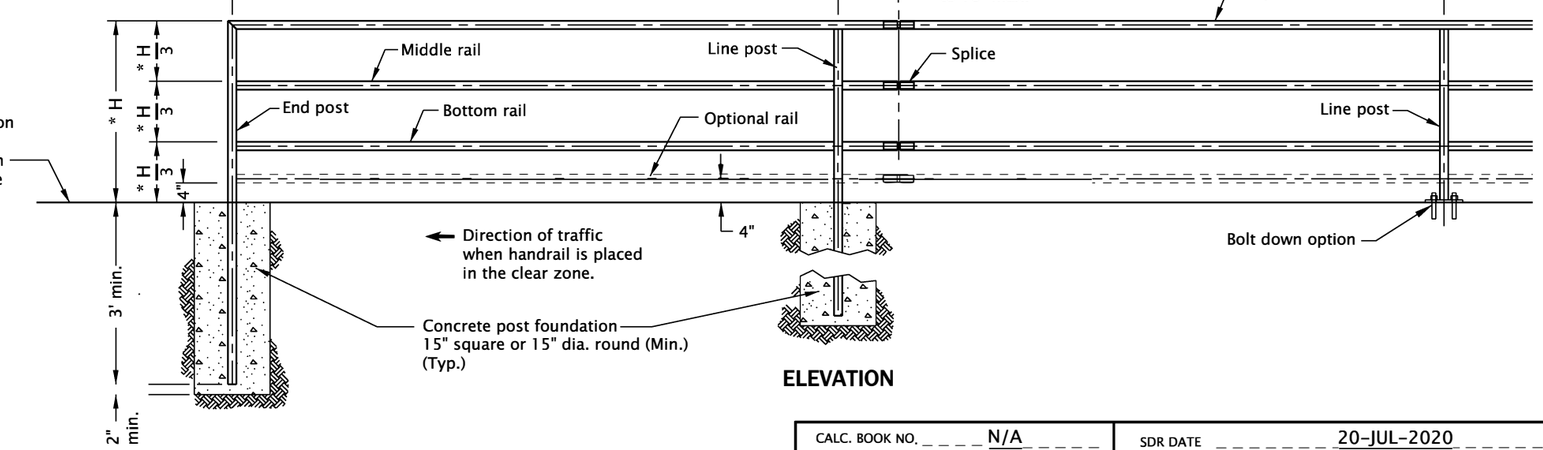
** Optional rail is required when min. 1' dimension could not be meet.



SIDE VIEW (ON GRADE)



SIDE VIEW (ON STRUCTURE)
(See general note 4)



ELEVATION

THREE RAIL HANDRAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Handrail details are based on applicable ODOT Standards.
2. See Std. Dwg. RD771 for details not shown.
3. Hot-dip galvanize all metal parts after fabrication.
4. Structure varies, see project plans.
5. Handrail height (H) shall be constant within a ramp run or stairway.
6. All concrete shall be commercial grade concrete.
7. See Std. Dwg. RD120 for concrete stairway.
8. See project plans for details not shown.

RD770

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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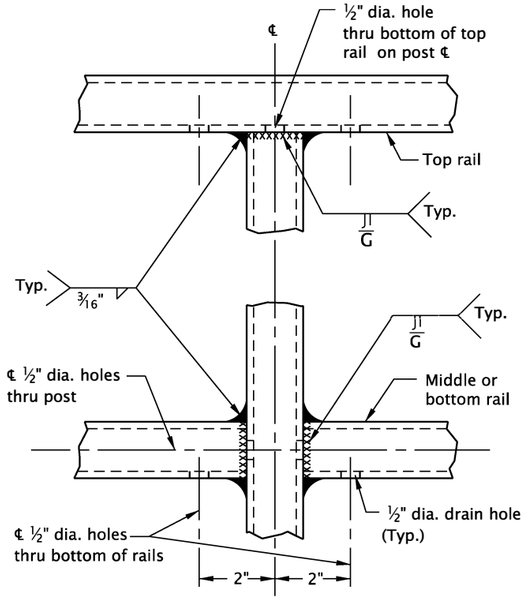
CITY OF THE DALLES STANDARD DRAWINGS

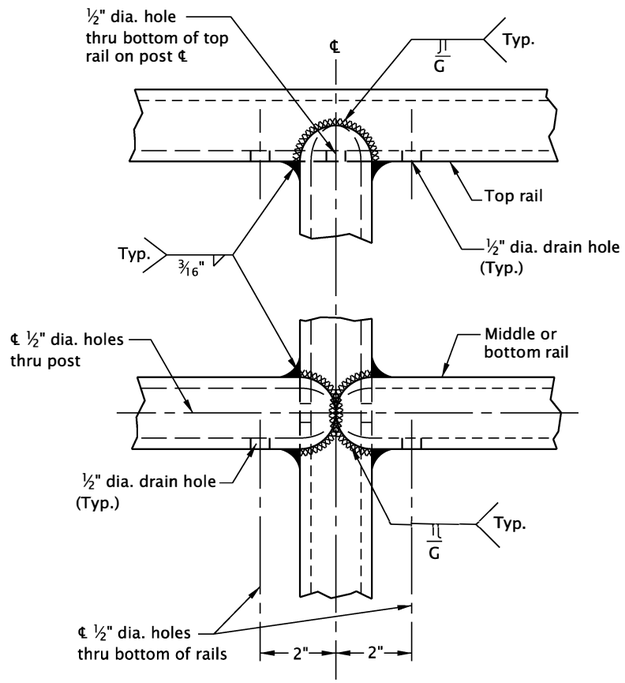
METAL HANDRAIL

2024

DATE	REVISION DESCRIPTION



WELD DETAILS FOR STEEL TUBING



WELD DETAILS FOR STEEL PIPE

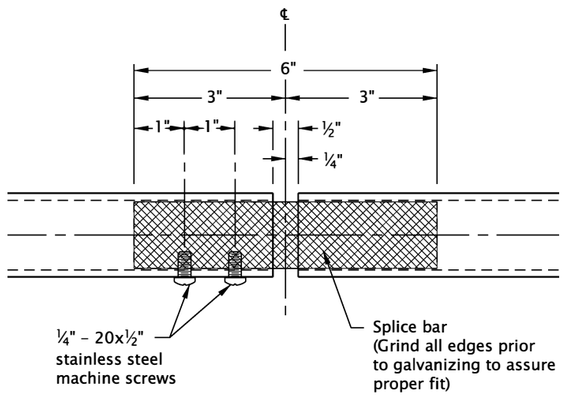
MATERIAL TABLES

STEEL PIPE POST & RAIL MEMBERS				ROUND SPLICE BAR
NOM. DIA.	SCH.	O.D.	I.D.	O.D.
1¼"	40	1.660"	1.380"	1¼"
1½"	10	1.900"	1.682"	1½"
	40	1.900"	1.610"	

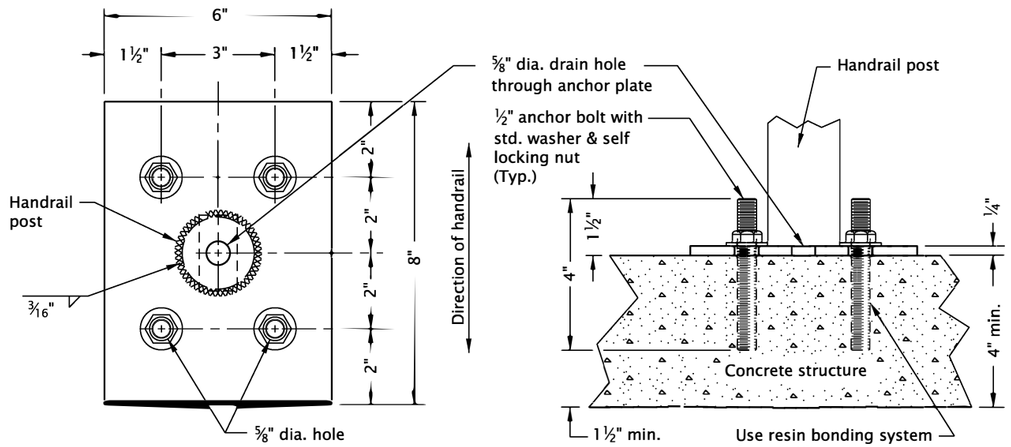
SQUARE STRUCTURAL STEEL TUBING POST & RAIL MEMBERS		SQUARE SPLICE BAR
Outside Dimensions	Wall Thickness	Outside Dimensions
1½"x1½"	⅛"	1"x1 "
	3/16"	¾"x¾"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Handrail details are based on applicable ODOT Standards.
2. Select materials from tables. Posts and rails shall be identical material. Structural steel tubing shall conform to ASTM specification A500, grade B.
3. Posts shall be vertical. The top rail shall be continuous over a minimum of two posts.
4. On structure, the railing shall conform to the vertical alignment of the structure. Rails shall have a splice in the post space occurring at expansion joints.
5. On grade, rails shall have splices at intervals not to exceed 100'.
6. Hot-dip galvanize all metal parts after fabrication.
7. See Std Dwg. RD770 for details not shown.
8. See Std Dwg. RD120 for concrete stairway.
9. See project plans for details not shown.



SPLICE DETAIL



PLAN VIEW

SIDE VIEW

ANCHOR PLATE FOR BOLT DOWN OPTION

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

METAL HANDRAIL DETAILS

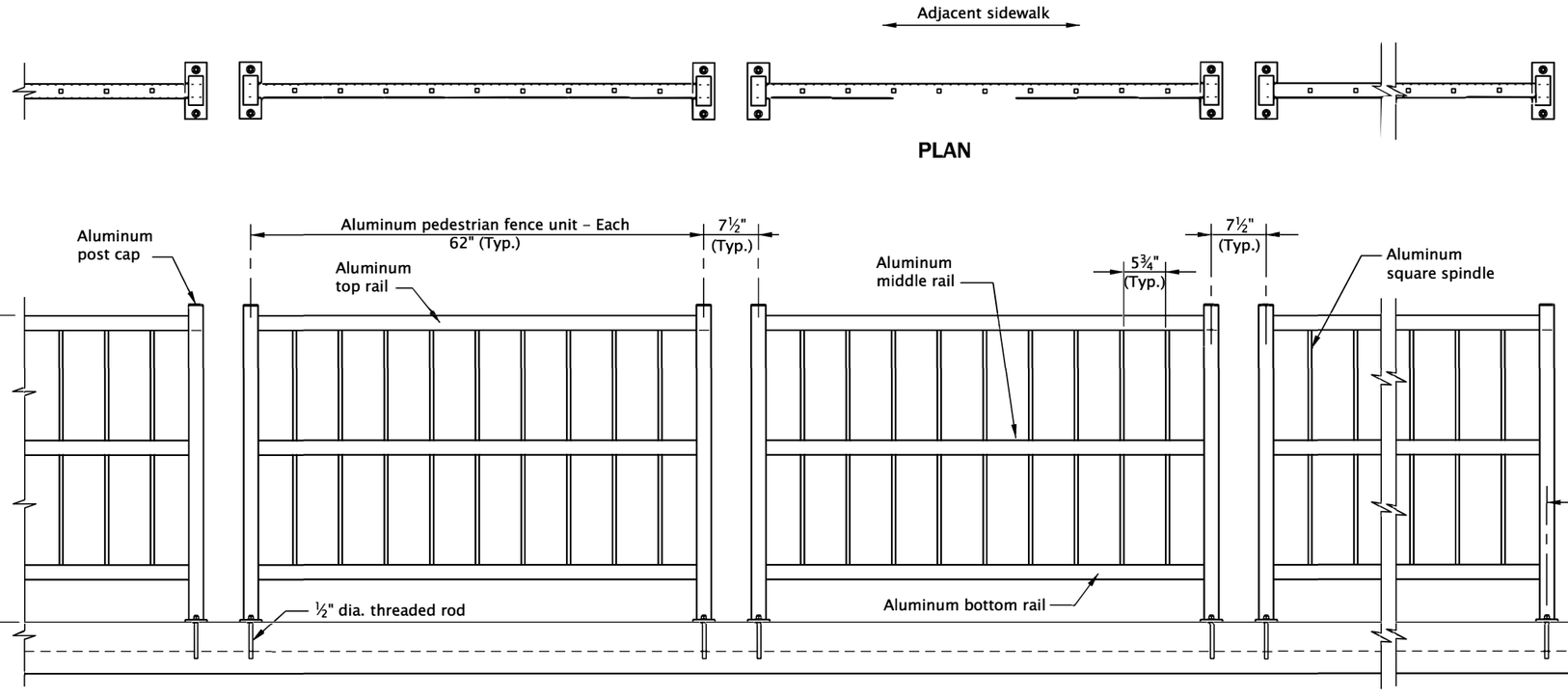
2024

DATE	REVISION DESCRIPTION

rd771.dgn 20-JUL-2020

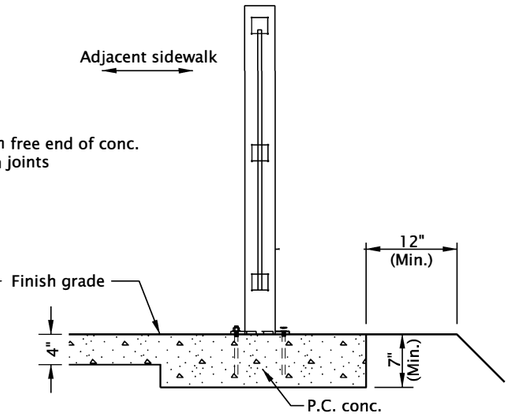
RD771

Effective Date: January 1, 2024 - December 31, 2024



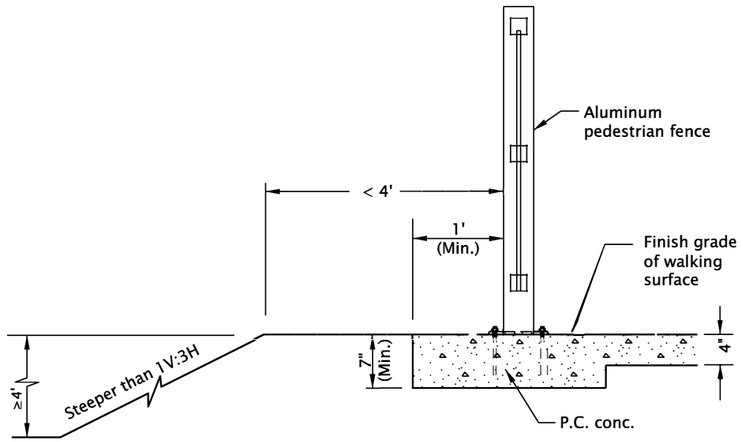
PLAN

ELEVATION

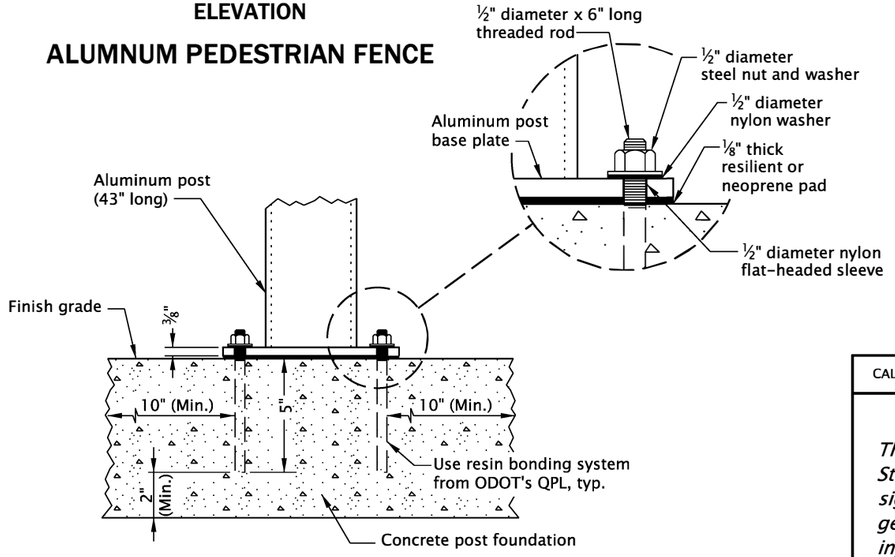


SECTION

ALUMNUM PEDESTRIAN FENCE



WHEN PEDESTRIAN FENCE IS REQUIRED FOR WALKING SURFACES



POST BASE PLATE BOLT DOWN ANCHOR

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD781 & RD782 for details not shown.
2. Structure varies, see project plans.
3. All concrete shall be commercial grade concrete.
4. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

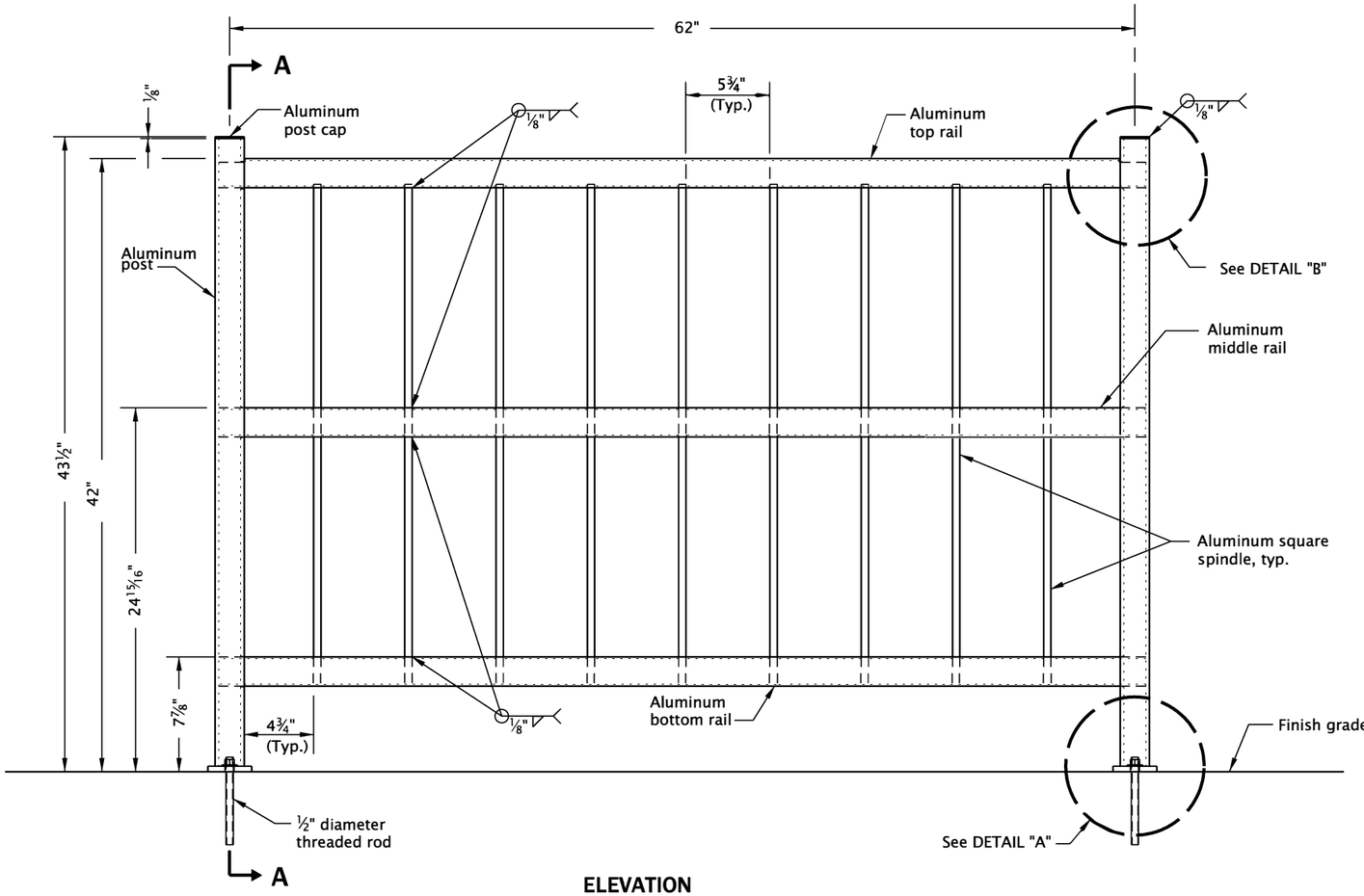
ALUMINUM PEDESTRIAN FENCE (MASH, TL-2)

2024

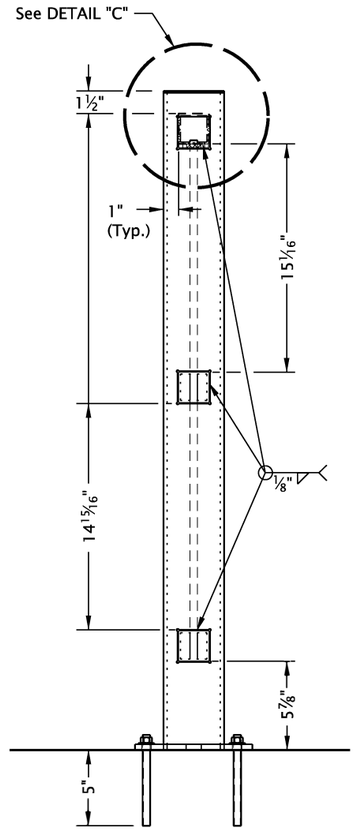
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

rd780.dgn 19-JUL-2021

rd781.dgn 19-JUL-2021

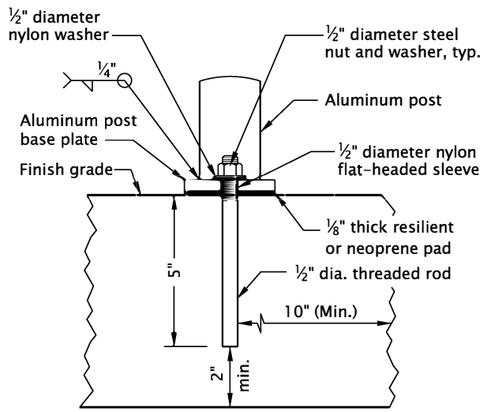


ELEVATION

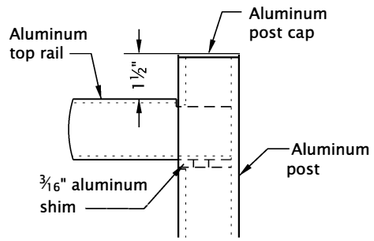


SECTION A-A

ALUMINUM PEDESTRIAN FENCE UNIT DETAILS



DETAIL "A"



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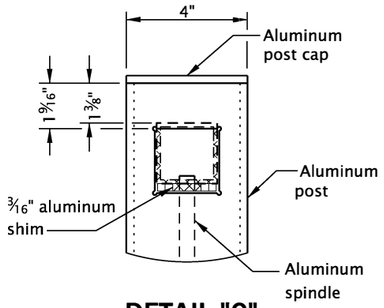

DETAIL "C"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD780 & RD782 for details not shown.
2. Structure varies, see project plans.
3. All concrete shall be commercial grade concrete.
4. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

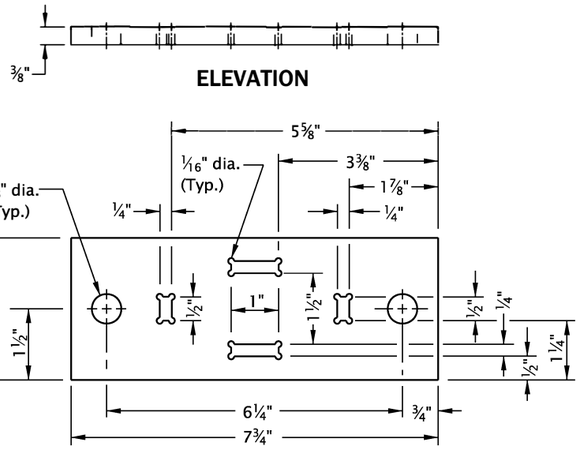
ALUMINUM PEDESTRIAN FENCE UNIT DETAILS

2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAILS AND NOTES

Effective Date: **January 1, 2024 - December 31, 2024**

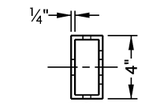
RD781



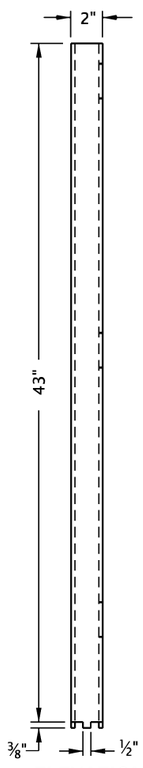
ELEVATION

PLAN

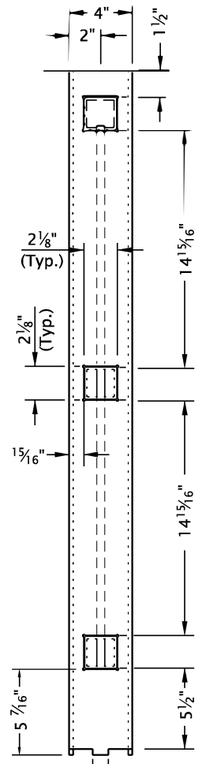
ALUMINUM POST BASE PLATE



TOP



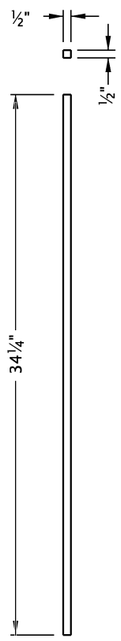
ELEVATION



SIDE

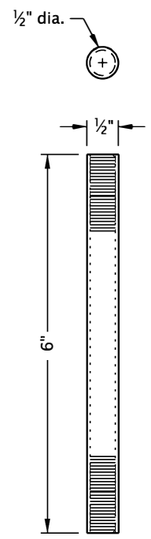
ALUMINUM POST

(2"X4"X¼" - 43" LONG)



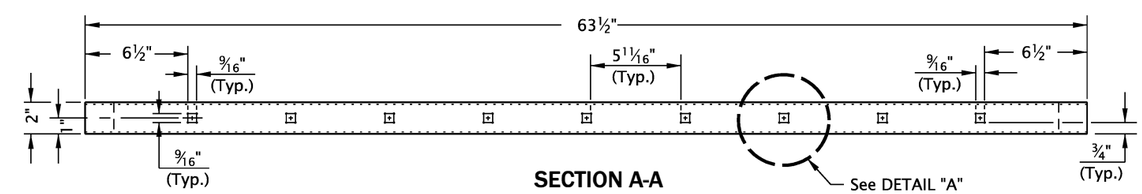
ALUMINUM SPINDLE

(½"X½" SQUARE - 32⅛" LONG)

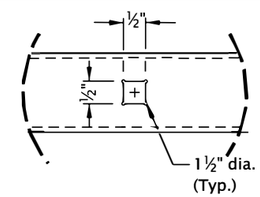


THREADED ROD

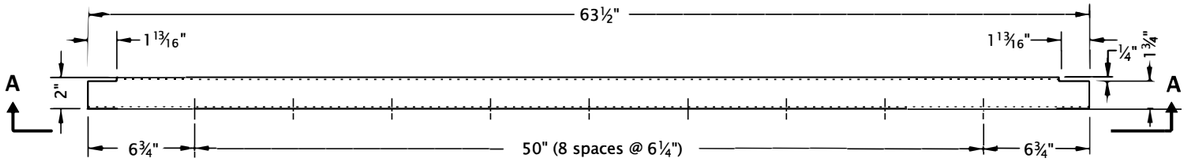
(½" DIAMETER UNC - 6" LONG)



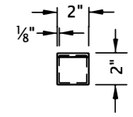
SECTION A-A

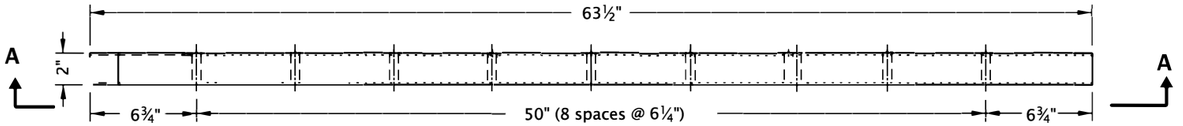


DETAIL "A"

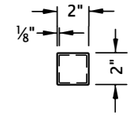


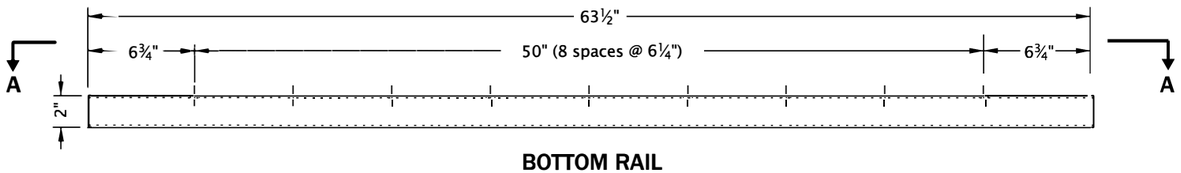
TOP RAIL



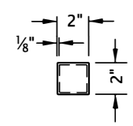


MIDLE RAIL

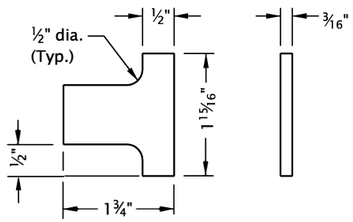




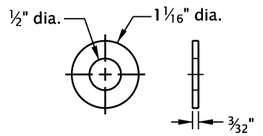
BOTTOM RAIL



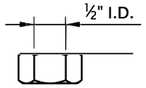
ALUMINUM RAIL ELEVATION



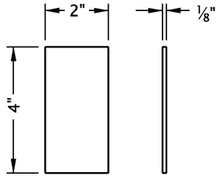
ALUMINUM SHIM



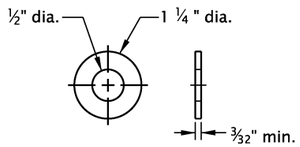
STEEL FLAT WASHER



STEEL NUT



ALUMINUM POST CAP



NYLON WASHER

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwg. RD780 for details not shown.
2. All aluminum welds should follow the aluminum design standard manual 2010 by using 5356 filler material.
3. All concrete shall be commercial grade concrete.
4. Structure varies, see project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

ALUMINUM PEDESTRIAN FENCE COMPONENT DETAILS

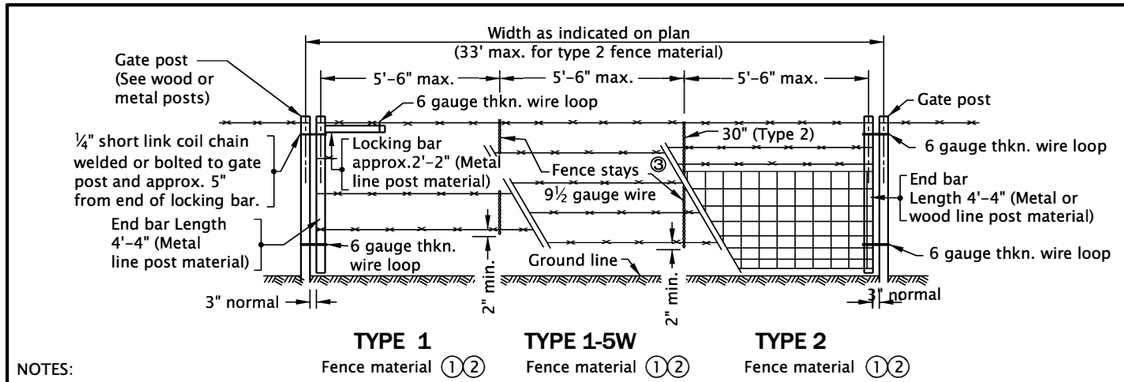
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAILS AND NOTES

rd782.dgn 19-JUL-2021

Effective Date: January 1, 2024- December 31, 2024

RD782



TYPE 1 Fence material ①②

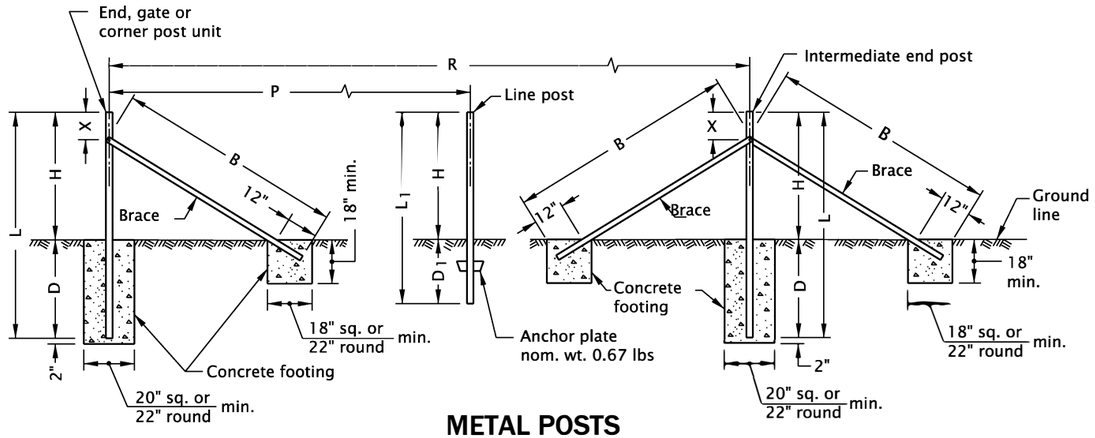
TYPE 1-5W Fence material ①②

TYPE 2 Fence material ①②

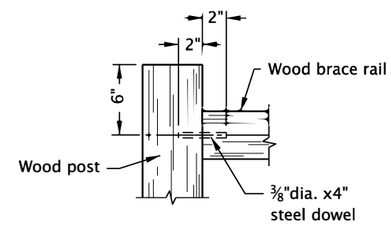
NOTES:

① Match adjointing fence type.
② For details not shown see fence type.
③ For wooden stays, see Type 1 fence details.

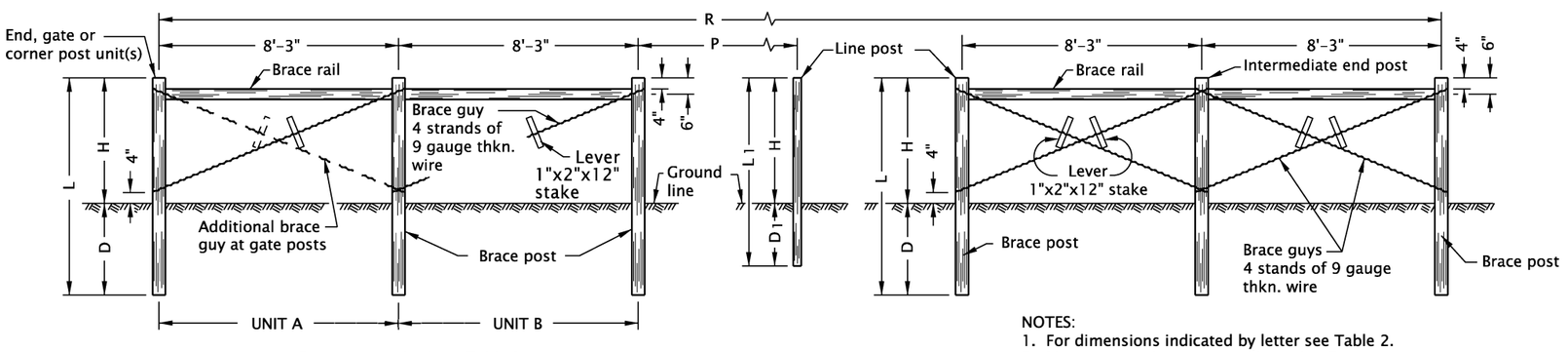
GATEWAY



METAL POSTS



BRACE RAIL CONNECTION



For units required see Table 1

WOOD POSTS

NOTES:
1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For cross sectional dimensions of members see Table 3.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For shapes, weights and dimensions of members see Table 3.
4. All concrete shall be commercial grade concrete.
5. See Std. Dwg. RD820 for fence gates.
6. See project plans for details not shown.
7. Add fence grounding as required.

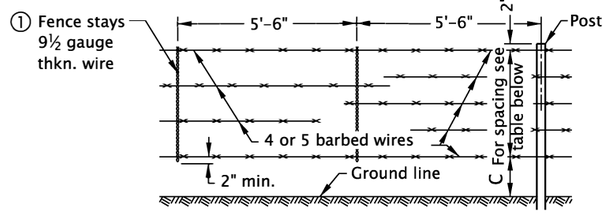


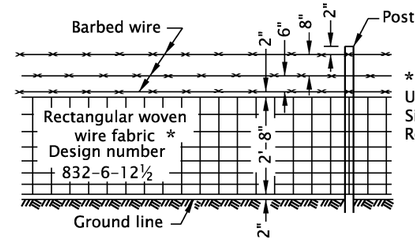
TABLE OF DIMENSIONS

FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

① NOTE:

Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground.
Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

TYPES 1 , & 1-5W



* U.S. Dept. of Commerce Simplified Practice Recommendation R9-47.

② NOTE:
For wooden stays, see Type 1 fence details

② TYPE 2

TABLE 1 (For wood posts)

FENCE	R (ft)	UNITS REQUIRED
Types 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

* Unit A required at gate post.

Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

TABLE 2

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

TABLE 3

MEMBER	WOOD			METAL		
	* ROUND		SQUARE	SHAPE	WEIGHT PER (ft) nominal	SIZE nominal
	DIAMETER OF SMALL END (in)		SIZE nominal (in)			
	min.-max.	min. avg.				
Line Post	3" to 4"	3"	† 3"x3"	Tee Channel ⓐ or U-bar	1.33 lb	ASTM A-702
Brace or Brace Rail	3½" to 5½"	4"	4"x4"	Tubular	ⓑ	1½" +/- O.D.
				ⓐ Angle	3.19 lb	2"x2"x¼"
Other Post	4" to 7"	5"	† 5"x5"	Tubular	b	2⅜" O.D.
				ⓐ Angle	4.1 lb	2½"x2½"x¼"

* Max. taper 1":48".

† Max. allowable size 1" additional in each dimension.

ⓐ In accordance with ASTM A 702.

ⓑ In accordance with AASHTO M 181.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications.

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CITY OF THE DALLES STANDARD DRAWINGS

BARBED AND WOVEN WIRE FENCES

2024

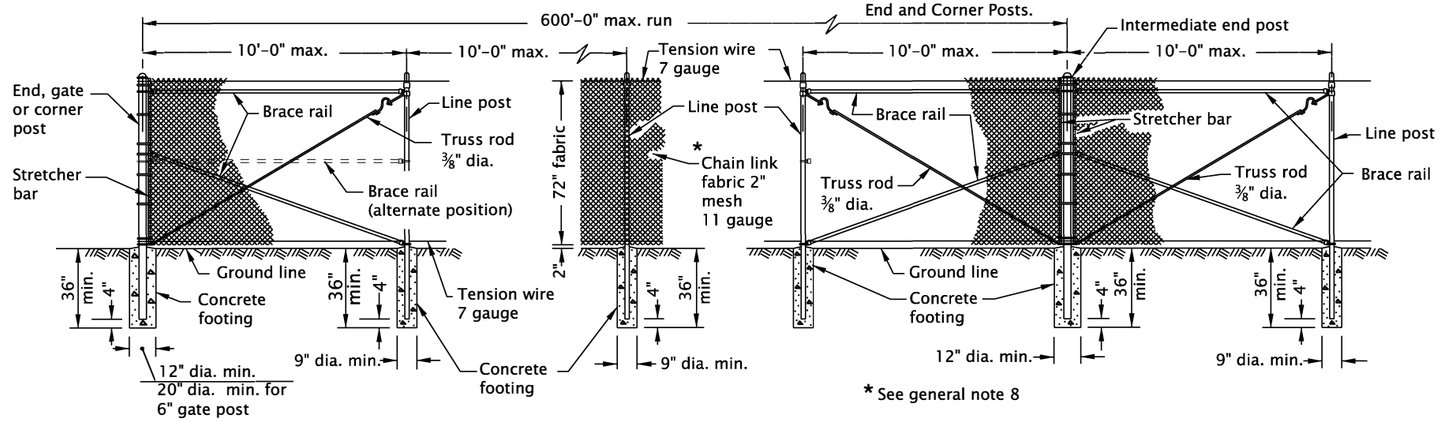
DATE	REVISION DESCRIPTION

rd810.dgn 20-JUL-2020

RD810

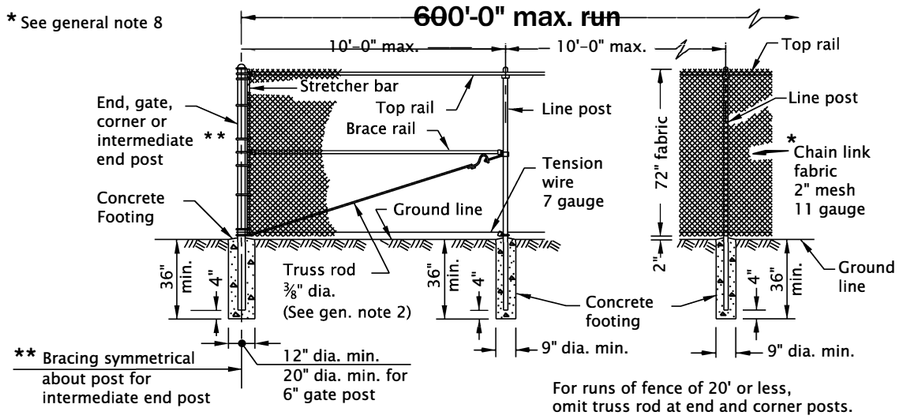
rd815.dgn 20-JUL-2020

TYPE CL-6

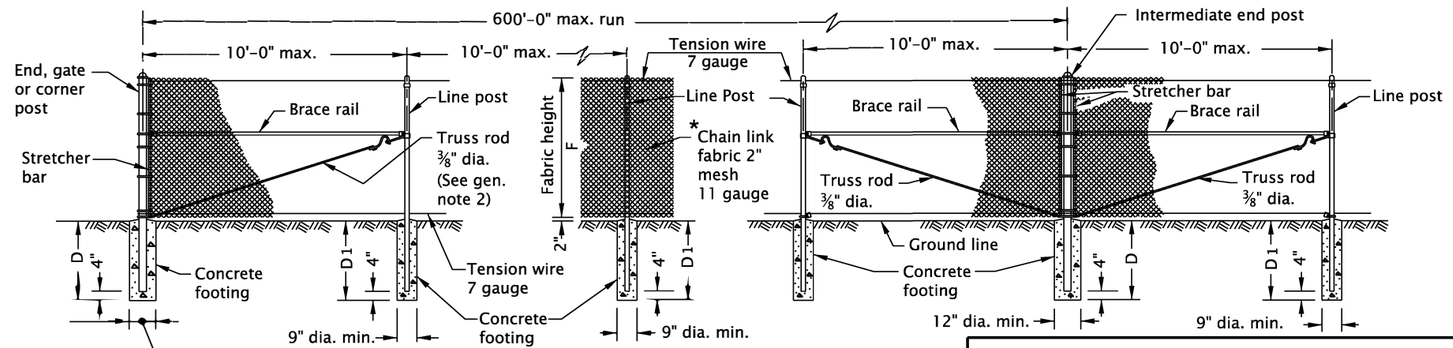


* See general note 8

TYPE CL-6R
600'-0" max. run



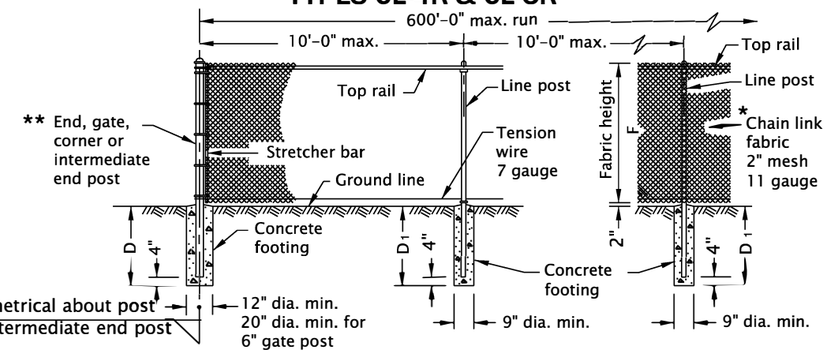
TYPES CL-4 & CL-5



TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4	30	24	48
CL-5	36	36	60

* See general note 8

TYPES CL-4R & CL-5R

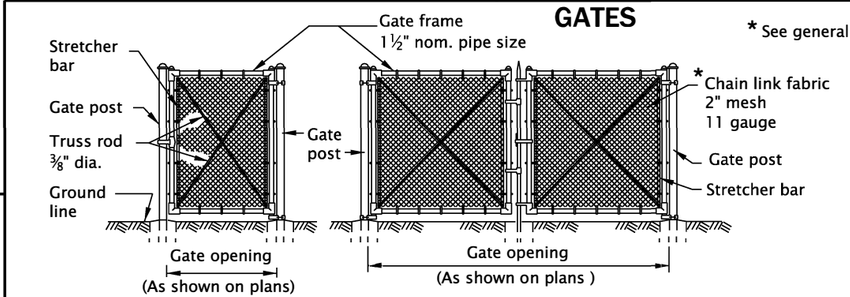


* See general note 8

TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4R	30	24	48
CL-5R	36	36	60

For runs of fence of 20' or less, omit truss rod at end and corner posts.

GATES



* See general note 8

TABLE 1

TYPE	MEMBER								GATE OPENING (ft)		GATE POSTS	
	BRACE AND TOP RAILS		LINE POSTS				END, CORNER & INTERMEDIATE END POST					
	TUBULAR		TUBULAR		H-SECTION		TUBULAR				TUBULAR	
	Fence Industry (in)	Nom. Dia. (in)	Fence Industry (in)	Nom. Dia. (in)	Size (in)	Wt. lb/ft	Fence Industry (in)	Nom. Dia. (in)	SINGLE GATE	DOUBLE GATE	Fence Industry (in)	Nom. Dia. (in)
STEEL CL-4 & CL-4R CL-5 & CL-5R	1⅝	1¼	1⅞	1½	1⅞ x 1⅝	2.72	2⅜	2	Up thru 6	Up thru 12	2⅞	2½
									7 thru 13	13 thru 26	4	3½
STEEL CL-6 & CL-6R	1⅝	1¼	2⅜	2	2¼ x 2	4.10	2⅞	2½	14 thru 18	27 thru 36	6⅝	6

NOTE: For CL-6, CL-6R, CL-8, CL-8R, CL-10 & CL-10R, the hardware is minimum and does not include slat wind loading.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Do not use top rail where fence can be struck by an errant vehicle.
2. Fittings shown are illustrative of use and not specific as to design.
3. Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for a single gate installation of the wider gate width.
4. For cross sectional dimensions of members, see Table 1.
5. Posts and rails with sections not shown that meet the requirements of AASHTO M181 are acceptable alternates. See ODOT's QPL for acceptable alternates.
6. All concrete shall be commercial grade concrete.
7. All chain link fabric top and bottom selvage shall be knuckled finish.
8. Chain link fabric for the fence to be installed with pickets shall be 9 gauge wire woven in 3½" by 5½" diamond mesh.
9. See project plans for details not shown.
10. Add fence grounding as required.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWINGS

CHAIN LINK FENCE

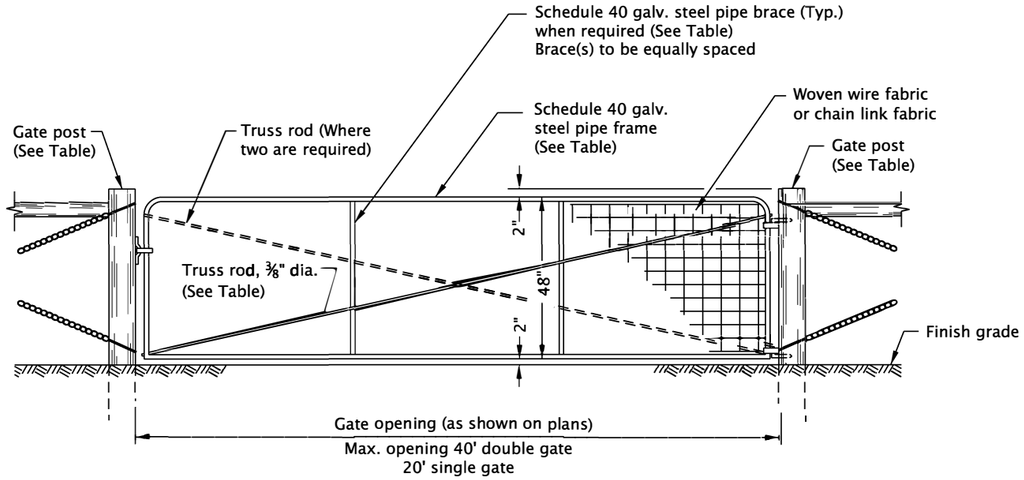
2024

DATE	REVISION DESCRIPTION

Effective Date: January 1, 2024 - May 31, 2024

RD815

RD815



GATE COMPONENTS								GATE POSTS ① ②					
								WOOD				STEEL	
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
								DIA. OF SMALL END (in)			NOM. SIZE (in)	NOM. DIA. (in)	MIN. WT. (lb/ft)
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		Min.	Max.	Min. Avg.			
UP thru 6	UP thru 12	1	1.68	–	–	–	–	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.

② For length, setting and bracing details see end posts, Std. Dwg. RD810.

* Max. taper 1" in 4'

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Gates shown are for use with Fence Types 1, 1-5W and 2.
2. See Std. Dwg. RD810 for details not shown.
3. See project plans for details not shown.
4. Add fence grounding as required.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

FENCE GATES

2024

DATE	REVISION DESCRIPTION

Effective Date: January 1, 2024 - December 31, 2024

RD820

rd820.dgn 20-JUL-2020

RD820

14-JAN-2022

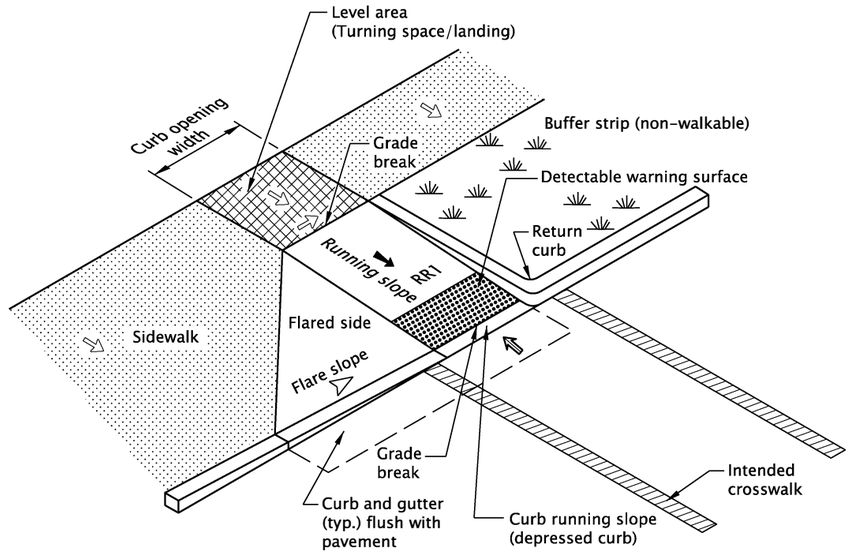
RD900.dgn

CURB RAMP INDEX

STD. DWG. NO.	STD. DWG. TITLE
RD900	Curb Ramp Components And Legend
RD901	Curb Ramp Legend And Corner Identification
RD902	Detectable Warning Surface Details
RD904	Detectable Warning Surface Placement For Curb Ramps
RD905	Detectable Warning Surface Placement For Directional Curbs
RD906	Detectable Warning Surface Placement For Accessible Route Island
RD908	Detectable Warning Surface Placement
RD909	Detectable Guide Strip Placement At Bike Ramps
RD910, RD912	Perpendicular Curb Ramp
RD913	Perpendicular Curb Ramp With Closure
RD916	Perpendicular Curb Ramp Single Ramp
RD920	Parallel Curb Ramp
RD922	Parallel Curb Ramp Single Ramp
RD930, RD932 & RD936	Combination Curb Ramp
RD938	Combination Curb Ramp Single Ramp
RD940	Blended Transition Curb Ramp Single Ramp
RD950 & RD952	End Of Walk Curb Ramp
RD960	Unique Curb Ramp

LEGEND:

- Marked or intended crossing location
- Sidewalk or other traversable surface
- Detectable warning surface (DWS)
- Level area (Turning space/landing)
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 4.0% max. (Max. 4.9% finished surface slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending (Max. 5.0% finished surface slope) Slope as required for drainage
- Flare slope (Max. 10.0% finished surface slope)
- 4'x4' clear space
- RR1 Ramp Run Position 1



TYPICAL CURB RAMP SYSTEM COMPONENTS

(PERPENDICULAR TYPE SHOWN)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City ofThe Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

CURB RAMP COMPONENTS AND LEGEND

2024

DATE	REVISION DESCRIPTION
07-2020	NEW DRAWING CREATED
07-2021	REVISED DETAILS AND NOTES
01-2022	REVISED LEGEND

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD900**

Effective Date: January 1, 2024- December 31, 2024

rd901.dgn 07-SEPT-2021

Corner Position is based on traveling in the increasing mile point direction, beginning with the first corner on the right and proceeding counter-clockwise around the intersection, numbering consecutive 1 through the end of corners. An "A" is added to the number for an island. For example an island between corner positions 1 and 2 and is closer to corner 2 has a corner position number of 2A (See corner position and curb ramp position diagram).

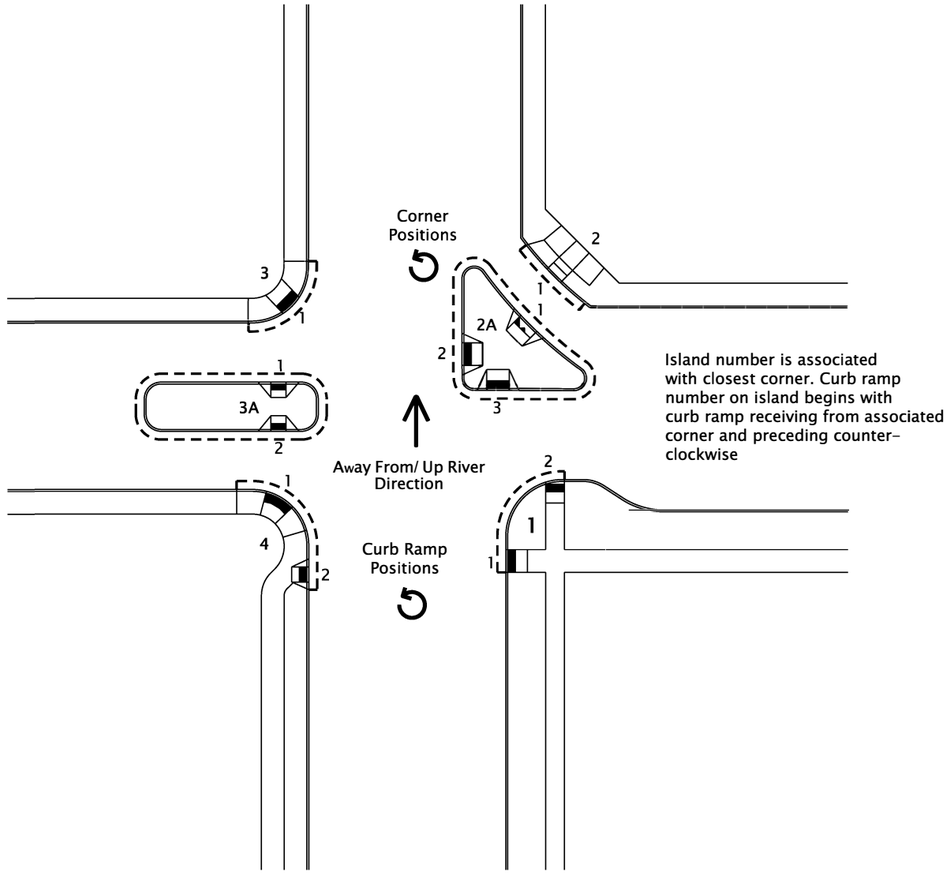
Curb Ramp Position is a number given to each curb ramp beginning with Corner Position 1. The first curb ramp encountered in the increasing mile point direction is number ramp 1. Then proceeds counter-clockwise around the corner, numbering in consecutive order.
Proceed following the pedestrian route and in Corner Position Number order (see corner position and curb ramp position diagram).

STANDARD ABBREVIATION FOR CURB RAMP DETAILS

FG	=	Finish Grade (Elevation ft.) i.e. FG XXX.XX'
TFC	=	Top Face of Curb (Elevation ft.)
TBC	=	Top Back of Curb (Elevation ft.)
BFC	=	Bottom Face of Curb (Elevation ft.)
gtr.	=	Gutter (Elevation ft.)
GS	=	Gutter Slope (%), i.e. X.X%
E	=	Curb Exposure (Inch), i.e. X"
CS	=	Counter Slope on gutter pan (%)
RRN	=	Ramp Run Number, i.e. RRX
cl.sp.	=	Clear Space
TS	=	Turning Space
XS	=	Cross Slope
LA	=	Level Area
DWS	=	Detectable Warning Surface
PAR	=	Pedestrian Access Route

INTERSECTION CONDITION TYPES

MB	=	Midblock
SU	=	Signalized or Uncontrolled
SY	=	Stop or Yield



CORNER POSITION AND CURB RAMP POSITION DIAGRAM

(See ODOT Exhibit A for additional ramp and ramp run numbering conventions.)

CALC. BOOK NO. N/A

SDR DATE 07-SEPT-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

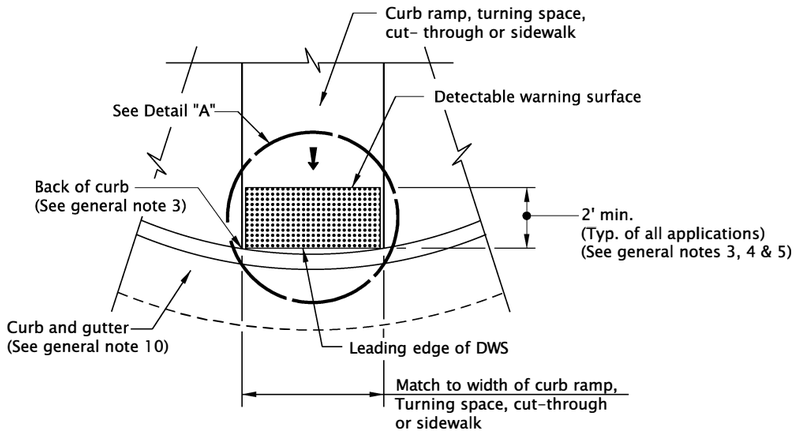
CURB RAMP LEGEND AND CORNER IDENTIFICATION

2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
09-2021	REVISED NOTES

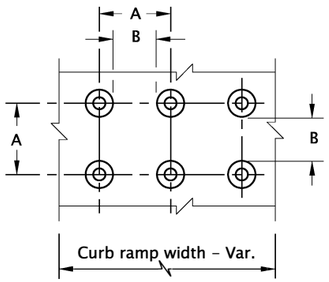
Effective Date: January 1, 2024 - December 31, 2024

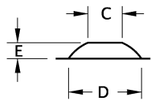
RD901

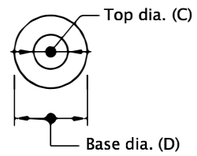


DETECTABLE WARNING SURFACE DETAIL

	A	B	C	D	E
MIN.	1.60"	0.65"	0.45"	0.90"	0.20"
MAX.	2.40"	--	0.91"	1.40"	0.20"

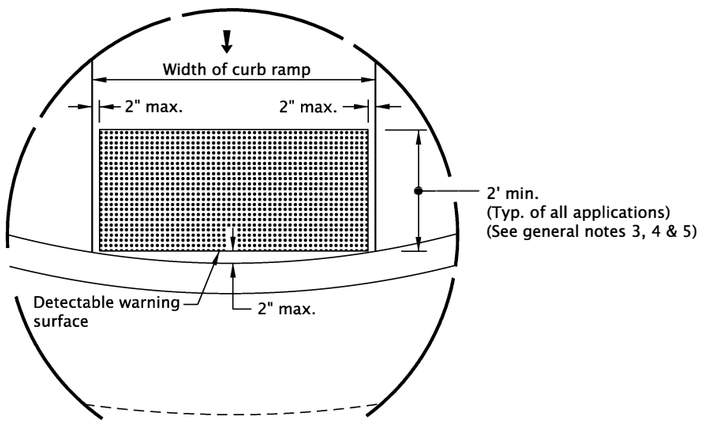






TRUNCATED DOME SPACING **TRUNCATED DOME**

TRUNCATED DOME DETAILS



DETAIL "A"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
3. The detectable warning surface shall extend the full width of the curb ramp opening, shared use path, blended transition, turning space, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the detectable warning surface is permitted (measured at the leading edge of the detectable warning surface panel as shown in Detail "A").
4. Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 ft. in the direction of pedestrian travel at curb ramps that are adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Detectable warning surface across a grade break is prohibited. Place abutting panels within¼ inch of each other and install anchors, as specified by manufacturers, along cut edge.
5. Color to be safety yellow if no color specified in construction note. Alternative colors require a design exception on or along state highways.
6. Detectable warning surface shall be used in the following locations:
   a) Curb ramps at street crossings.
   b) Crossing islands (Accessible Route Islands).
   c) Rail crossings.
7. Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards, (see Std. Dwg. RD908).
8. Detectable warning surface shall not be used on the following locations:
   a) End of sidewalk transitions that are not at a crosswalk, (see Std. Dwgs. RD950, RD952 and RD960).
   b) Driveways, unless constructed with curb return or are signalized.
   c) Parking lots, access aisles and passenger loading zones where curb ramp does not lead to vehicular way.
9. Where no curb is present, the detectable warning surface shall be placed at the edge of the roadway.
10. Curb and gutter is required at curb ramps.

LEGEND:

Detectable warning surface

Cross slope 1.5% max.
(Max. 2.0% finished surface slope)
(Normal sidewalk cross slope)

Running slope 7.5% max.
(Max. 8.3% finished surface slope)

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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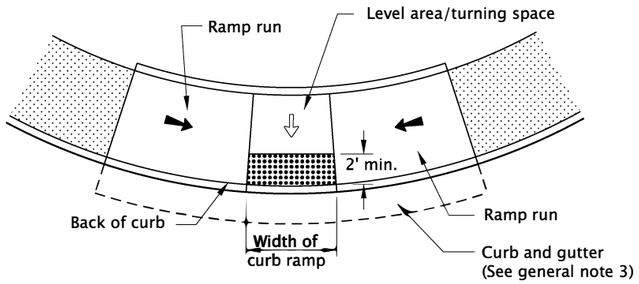
CITY OF THE DALLES STANDARD DRAWINGS

DETECTABLE WARNING SURFACE DETAILS

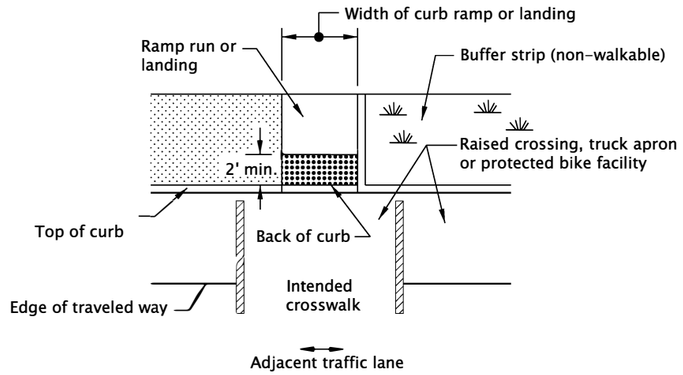
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

rd902.dgn 19-JUL-2021



PARALLEL CURB RAMP



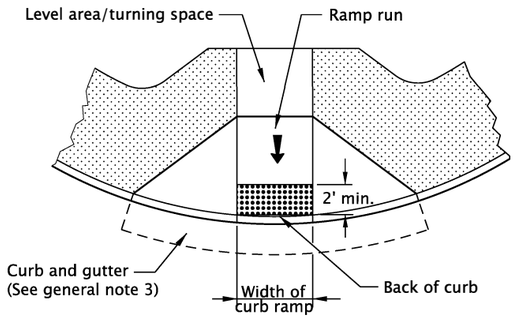
RAISED CROSSING, TRUCK APRON OR PROTECTED BIKE FACILITY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

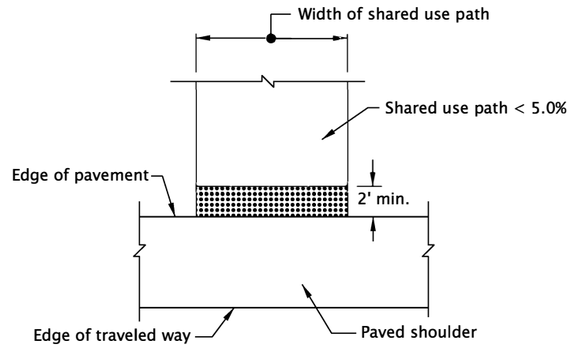
1. Detectable warning surface details & locations are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwg. RD902 for detectable warning surface installation details.
3. Curb and gutter is required at curb ramps.
4. Detectable warning surface placement for perpendicular ramps vary as shown.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)



PERPENDICULAR CURB RAMP
GRADE BREAK IN FRONT OF CURB



SHARED-USE PATH CONNECTION

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

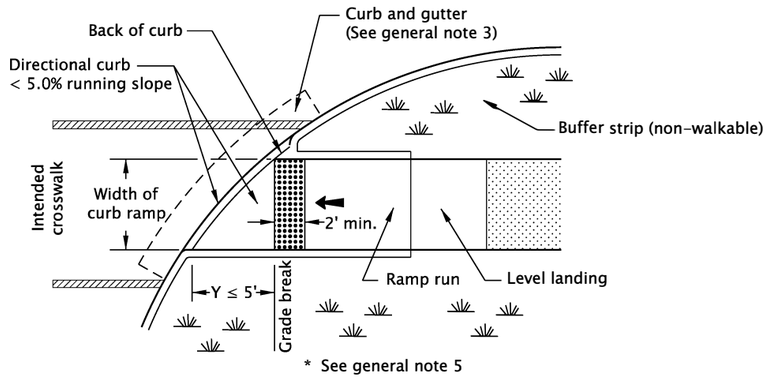
DETECTABLE WARNING SURFACE PLACEMENT FOR CURB RAMPS

2024

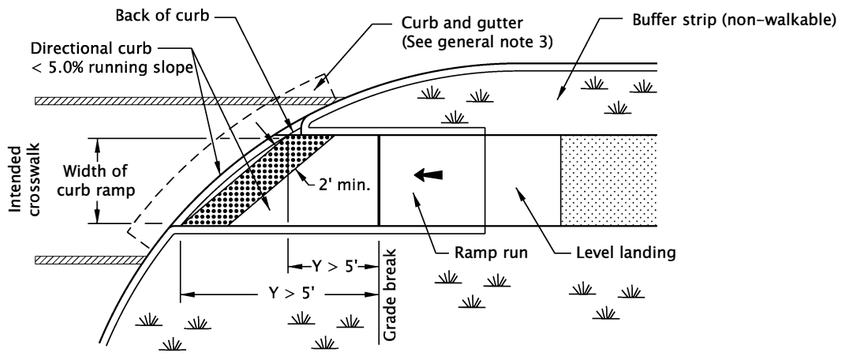
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

rd904.dgn 20-JUL-2020

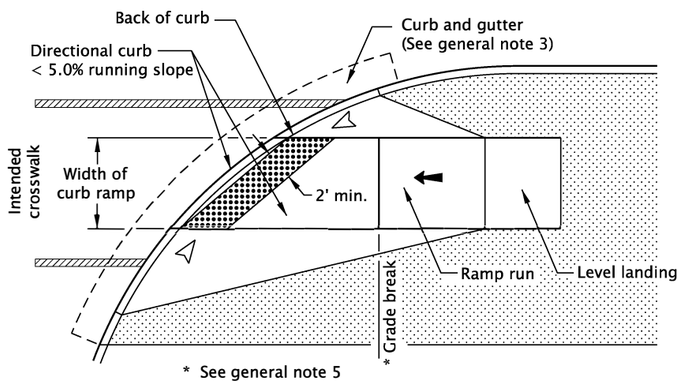
RD904



CURB RAMP CROSSING
GRADE BREAK ≤ 5 FT. FROM BACK OF CURB



CURB RAMP CROSSING
GRADE BREAK > 5 FT. FROM BACK OF CURB



CURB RAMP CROSSING
DIRECTIONAL CURB WITH FLARED CONSTRUCTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable COTD Standards. See project plans for details not shown.
2. See Std. Dwgs. RD700 & RD701 for curbs.

   See Std. Dwg. RD902 for detectable warning surface installation details.
3. Curb and gutter is required at curb ramps.
4. Detectable warning surface placement for perpendicular ramps vary as shown.
5. Detectable warning surface placement across the grade break is prohibited.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Flare slope (Max. 10.0% finished surface slope)

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

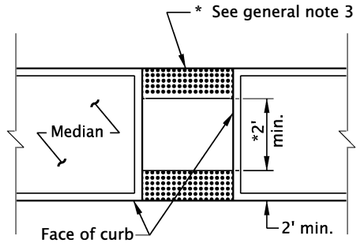
DETECTABLE WARNING SURFACE PLACEMENT FOR DIRECTIONAL CURBS

2024

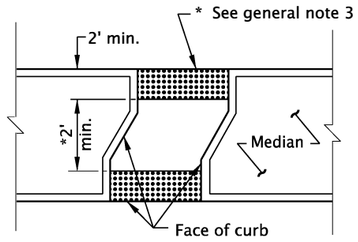
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

rd905.dgn 20-JUL-2020

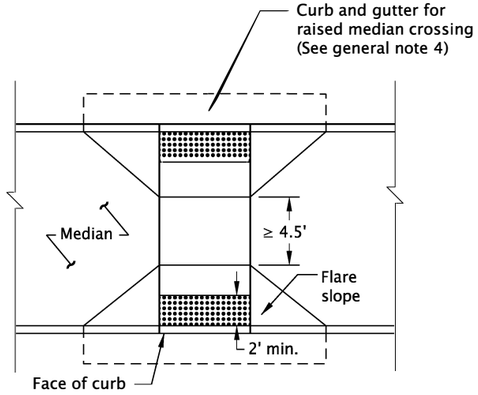
RD905



* Omit detectable warning surfaces if less than 2'



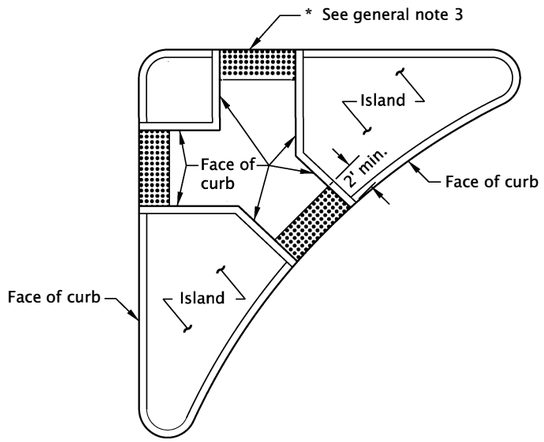
CUT-THROUGH
(Asph. conc. surface shown)



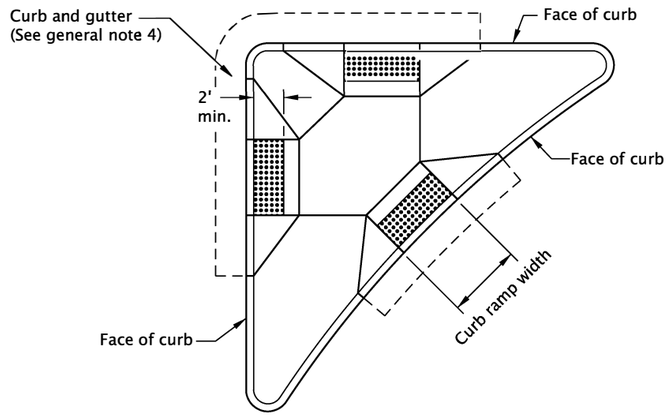
RAISED MEDIAN
(P.C. conc. surface shown)

MEDIAN CROSSING

* Omit detectable warning surfaces if less than 2'



CUT-THROUGH ISLAND
(Asph. conc. surface shown)



RAISED ISLAND
(P.C. conc. surface shown)

RIGHT TURN CHANNELIZATION ISLAND

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD710 & RD711 for accessible route island.
   See Std. Dwg. RD902 for detectable warning surface installation details.
3. Detectable warning surfaces shall be separated by a 2.0 ft minimum length of walkway without detectable warnings. Where the island has no curb, the detectable warning surface shall be placed at the edge of roadway.
4. Curb and gutter is required at curb ramps.
5. Details intended for pedestrian route only. For protected bike lanes on multi-use paths, see project plans for specific details.

LEGEND:

Detectable warning surface

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of the Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

DETECTABLE WARNING SURFACE PLACEMENT FOR ACCESSIBLE ROUTE ISLAND

2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

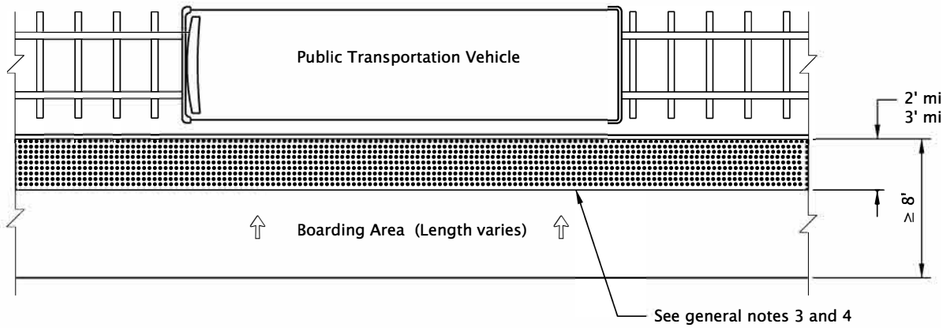
rd906.dgn 20-JUL-2020

RD906

Effective Date: January 1, 2024 - December 31, 2024

15-JUL-2022

RD908.dgn



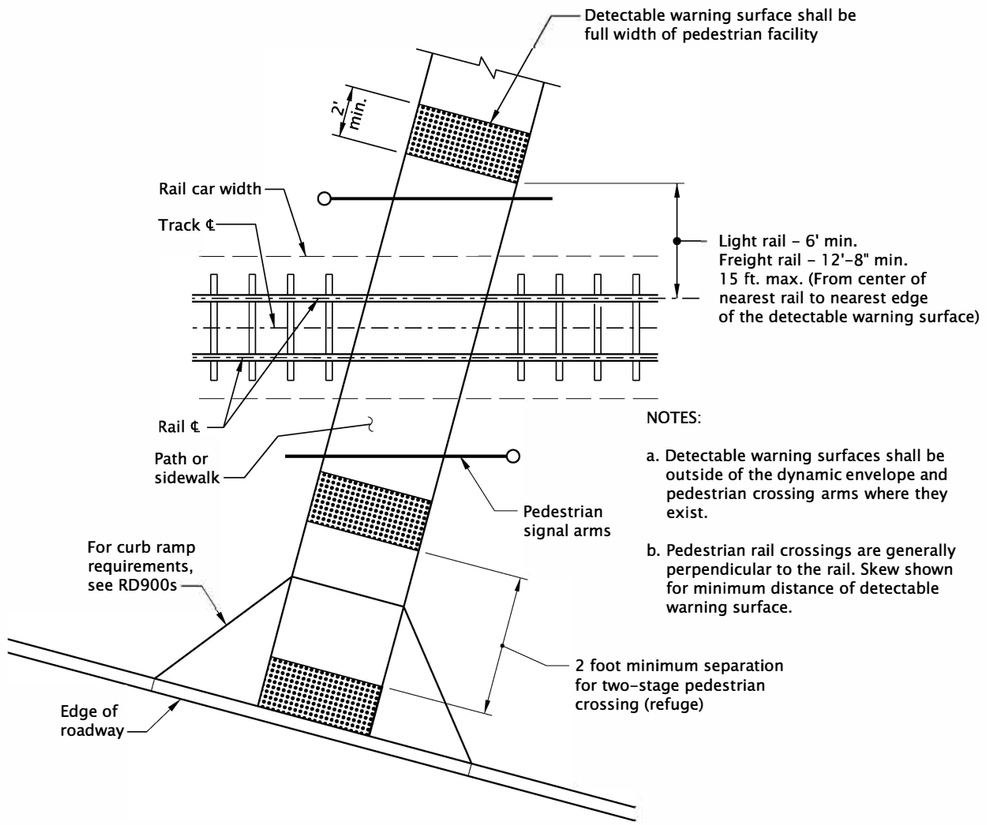
LEGEND:

Detectable warning surface

Cross slope 1.5% max.
(Max. 2.0% finished surface slope)

PUBLIC TRANSPORTATION STATION

Rail or Transit Service

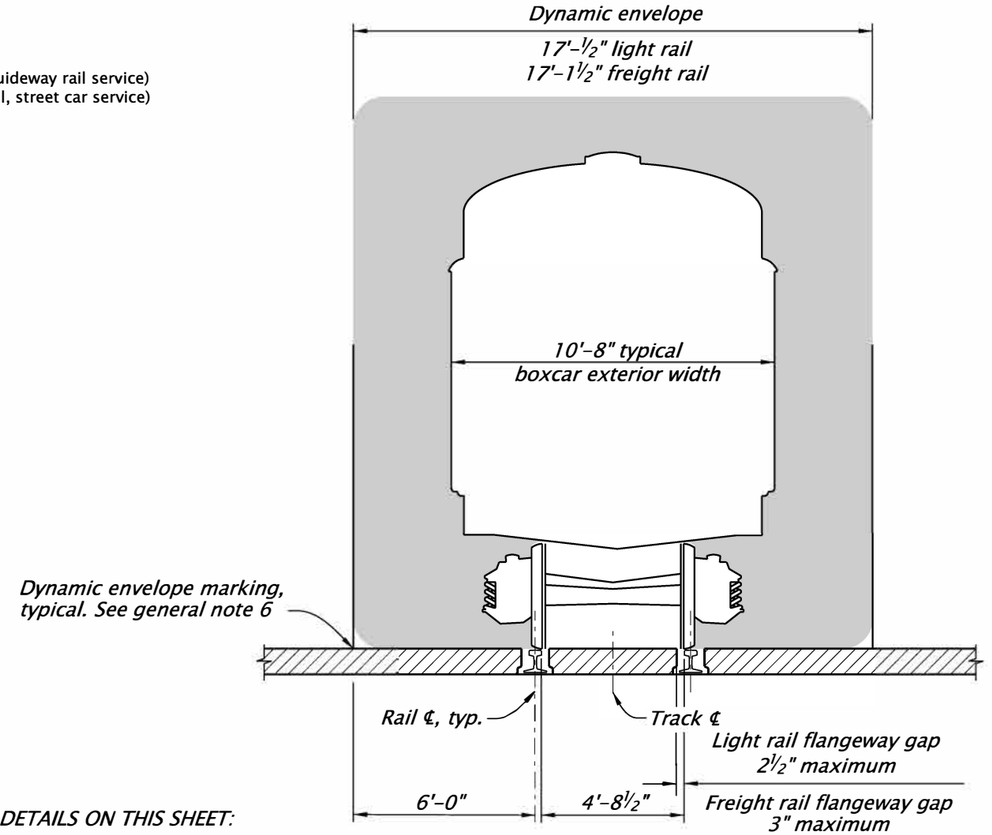


NOTES:

a. Detectable warning surfaces shall be outside of the dynamic envelope and pedestrian crossing arms where they exist.

b. Pedestrian rail crossings are generally perpendicular to the rail. Skew shown for minimum distance of detectable warning surface.

AT-GRADE RAIL CROSSING



RAIL TRACK SECTION VIEW

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Detectable warning surface details and locations are based on applicable COTD Standards.*
2. *See project plans for details not shown. See Std. Dwg. RD902 for detectable warning surface installation details.*
3. *Place detectable warning surface along the full length of the rail station, when not protected by screens or guards on raised platforms, sidewalk, and street level boarding areas.*
4. *Place detectable warning surface along the full length of the transit station, when not protected by screens or guards on raised platforms and sidewalk boarding areas.*
5. *Detectable warning surfaces shall be outside of the dynamic envelope.*
6. *Dynamic envelope shall be clear of all fixed obstructions unless otherwise shown on Rail Crossing Order.*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

DETECTABLE WARNING SURFACE PLACEMENT FOR RAIL

2024

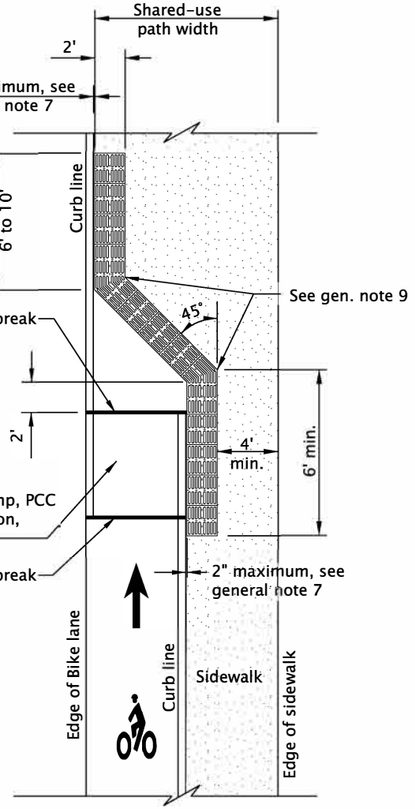
DATE	REVISION DESCRIPTION
07-2020	NEW DRAWING CREATED
07-2022	REVISED DETAILS AND NOTES

CALC. BOOK NO. N/A | SDR DATE 15-JUL-2022 | **RD908**

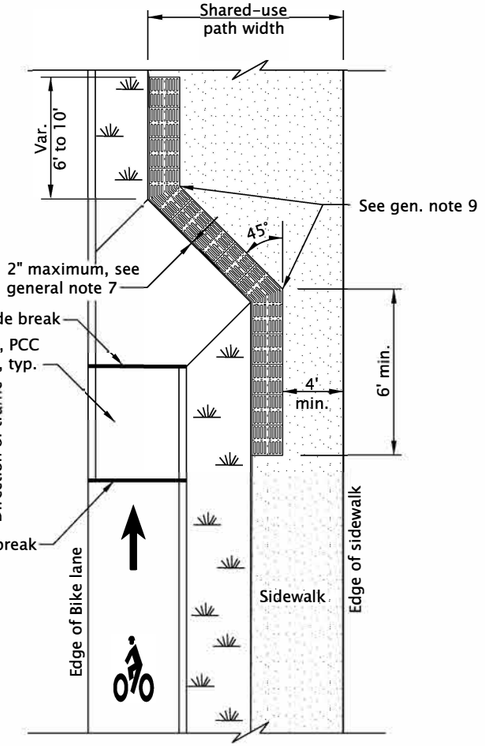
Effective Date: January 1, 2024 - December 31, 2024

14-JAN-2022

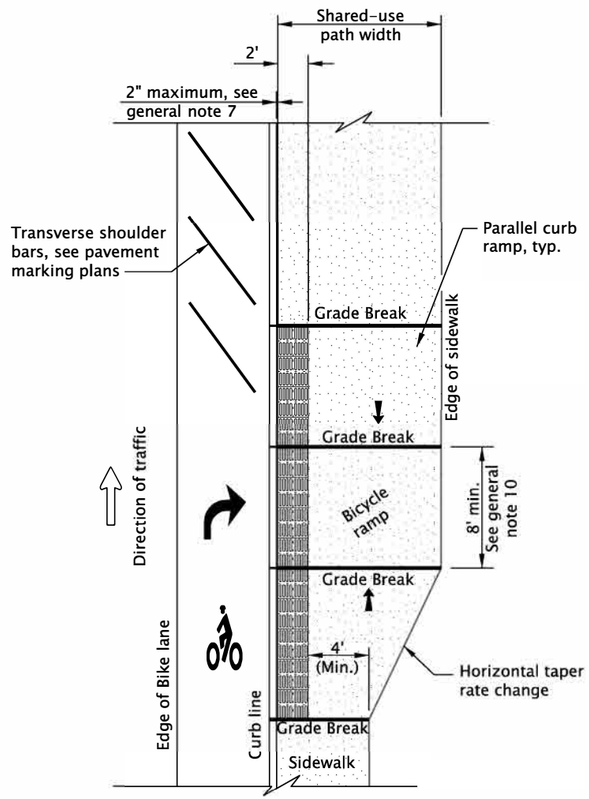
RD909.dgn



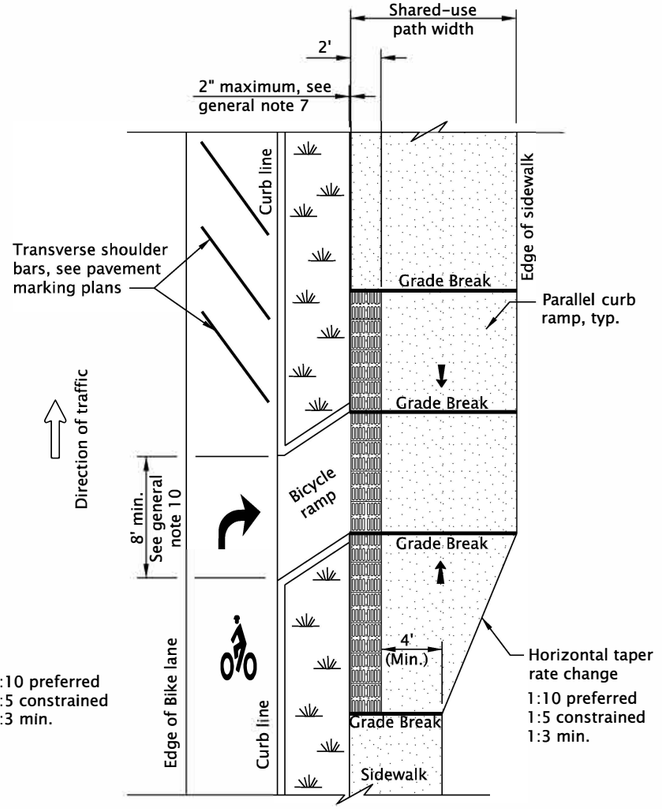
OPTION "BR-1"
BICYCLE LANE DROP TO CURB LINE SIDEWALK



OPTION "BR-2"
BICYCLE LANE DROP TO SEPARATED SIDEWALK



OPTION "BR-3"
BICYCLE LANE PARALLEL RAMP APPROACH



OPTION "BR-4"
BICYCLE LANE ANGLED RAMP APPROACH

LEGEND:

Detectable guide strip

Sidewalk

Running slope 7.5% maximum (maximum 8.3% finished surface slope)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Bicycle ramp details are based on applicable COTD Standards. If curb ramp serves both bicycles and pedestrians, do not use this drawing. See Std. Dwg. RD902.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 and RD702 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD920 for parallel curb ramp details.
   See Std. Dwg. RD1140 for separated bike lanes.
   See Std. Dwg. TM500 for transverse shoulder bars details
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares.
5. Detectable guide strip color shall be blue if no color specified. Color shall be contrasting to the surrounding area, light on dark, or dark on light. Blue markings are reserved for accessibility features. Alternative colors require a design exception on or along state highways.
6. Agency review and approval required for detectable guide strip products.
7. Detectable guide strip shall be placed a maximum of 2-inches from the edge of the sidewalk.
8. Place abutting panels within 1/4-inch of each other and install anchors, as specified by manufacturers, along cut edge.
9. Miter panels at 45 degree angle. Detectable guide strips may be cut to meet necessary shape as shown.
10. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide.

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All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

DETECTABLE GUIDE STRIP PLACEMENT AT BIKE RAMPS

2024

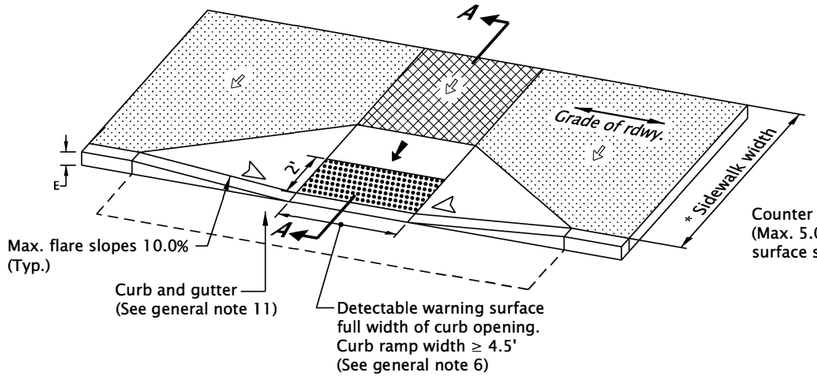
DATE	REVISION DESCRIPTION
12-2021	NEW DRAWING CREATED

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | RD909

Effective Date: January 1, 2024 - December 31, 2024

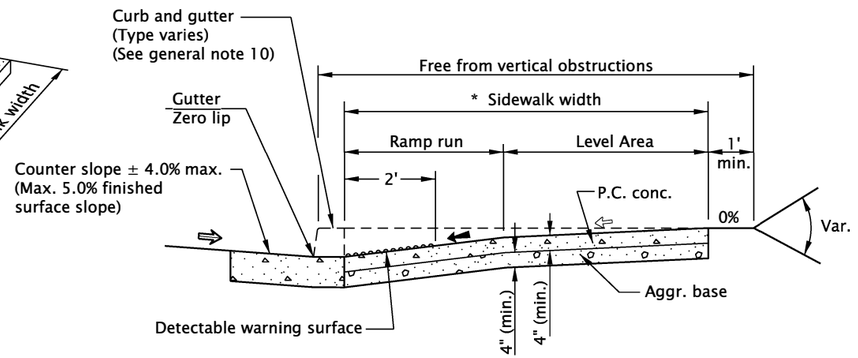
14-JAN-2022

RD910.dgn



PERPENDICULAR CURB RAMP DETAIL

(Use "Parallel Curb Ramp Detail" or "Combination Curb Ramp Detail" when reqd. turning space cannot be obtained)



SECTION A-A

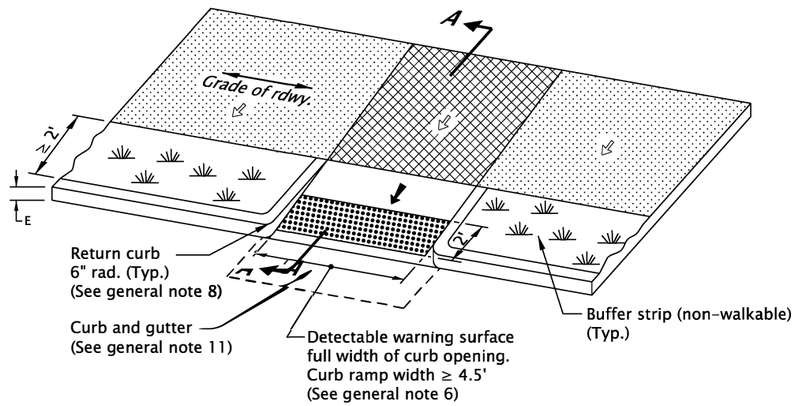
* NOTE: Minimum width of 14.25 feet sidewalk for E=7"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

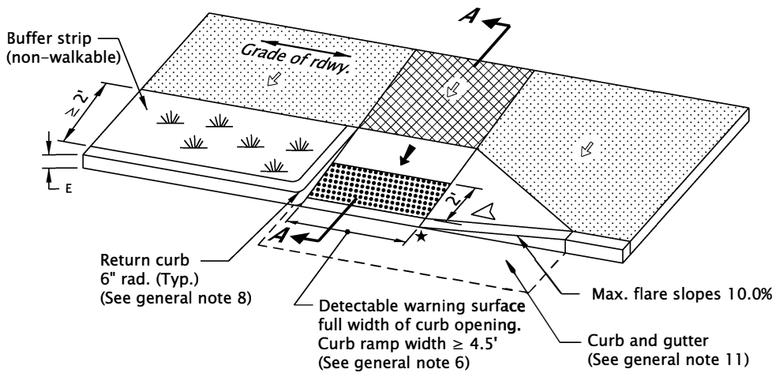
1. Curb ramp details are based on applicable COTD Standards.
2. See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwgs. RD912 through RD916 for curb ramp placement options.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide, (see Std. Dwg. RD909 for additional details).
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. Curb and gutter is required at curb ramps.

LEGEND:

- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending,
  (Max. 5.0% finished surface slope)
  Slope as required for drainage
- Flare slope
  (Max. 10% finished surface slope)



THROUGH BUFFER STRIP



WITH SINGLE FLARE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

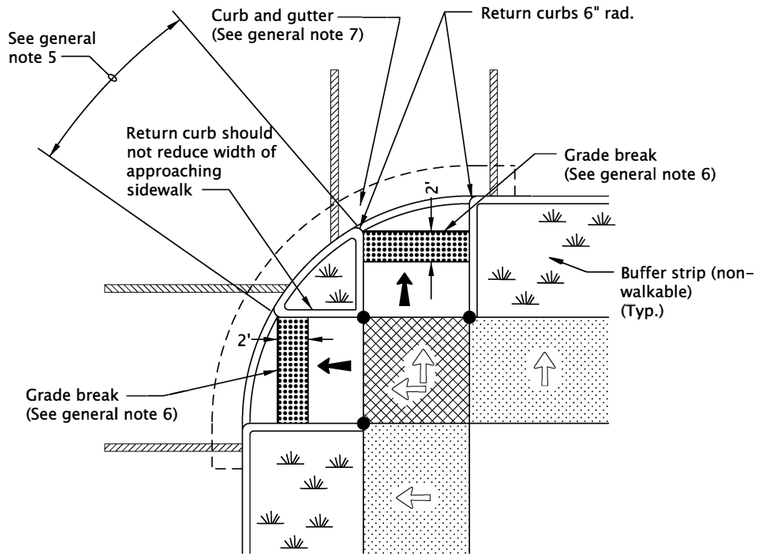
PERPENDICULAR CURB RAMP

2024

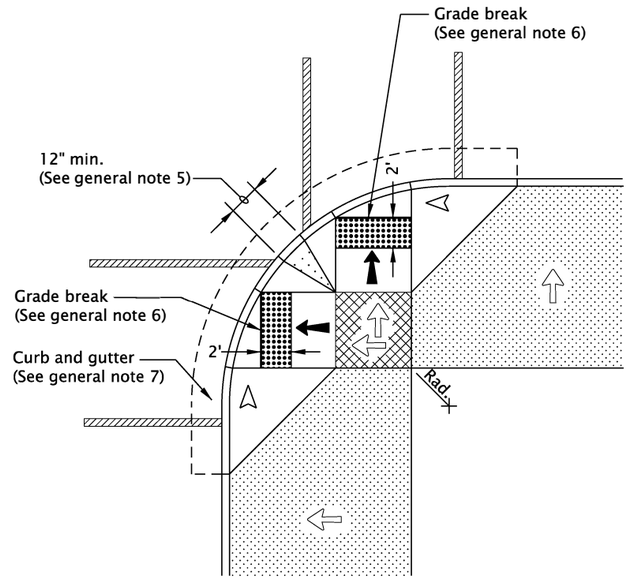
DATE	REVISION DESCRIPTION
12-2021	NEW DRAWING CREATED
01-2022	REVISED NOTES

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD910**

Effective Date: January 1, 2024 - December 31, 2024



WITH LANDSCAPED BUFFER STRIP
OPTION "PR-1"



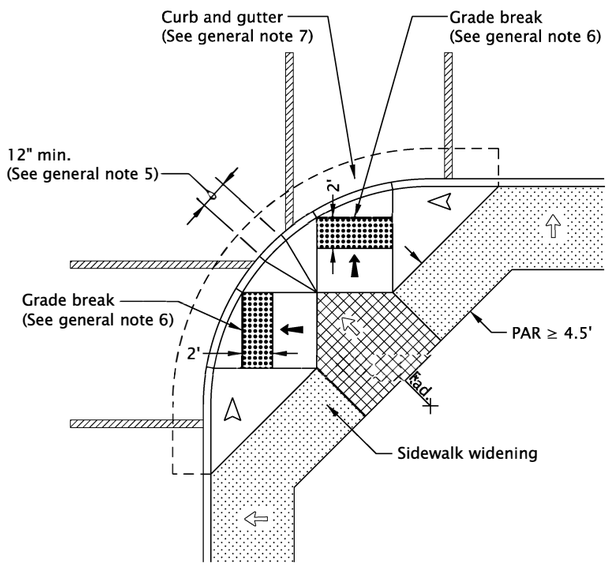
FOR WIDE SIDEWALKS
OPTION "PR-2"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

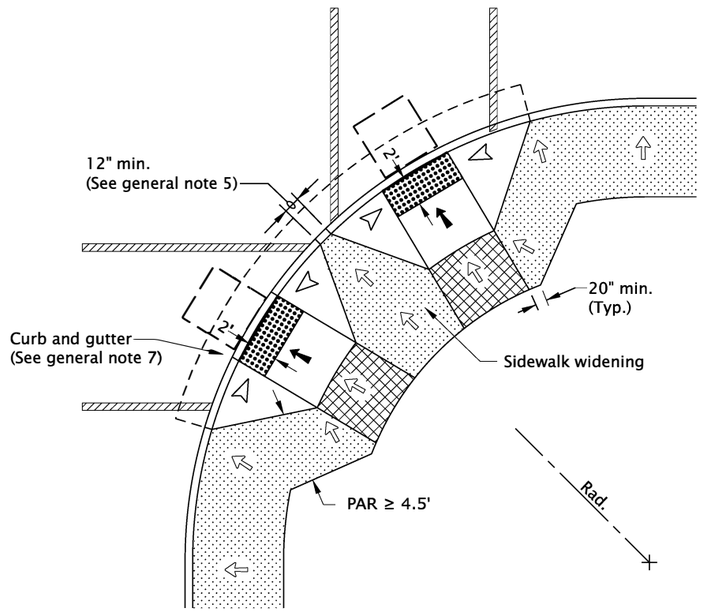
1. Curb ramp details are based on applicable COTD Standards.
   See project plans for details not shown.
2. See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD910 for perpendicular curb ramp details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. When 2 curb ramps are immediately adjacent, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.
6. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
7. Curb and gutter is required at curb ramps.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- ◁ Flare slope
  (Max. 10% finished surface slope)
- ● Zero curb exposure
- 4' x 4' clear space
- PAR Pedestrian Access Route



FOR NARROW SIDEWALKS
OPTION "PR-3"



FOR NARROW SIDEWALKS
OPTION "PR-4"

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City ofThe Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

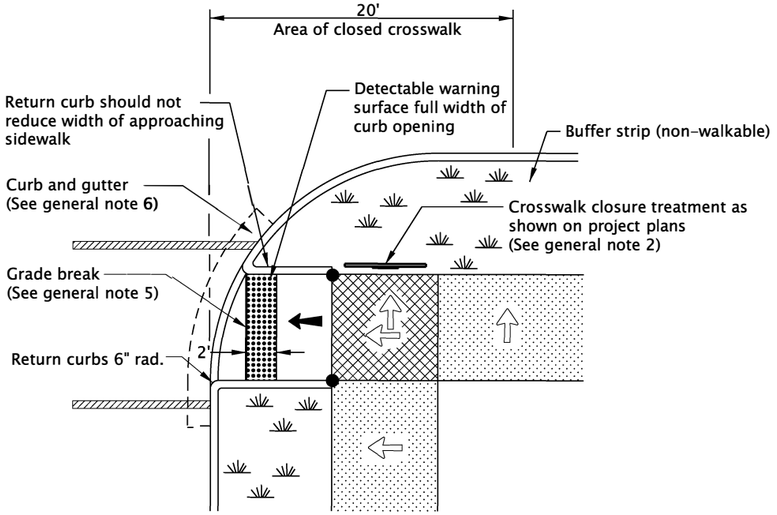
CITY OF THE DALLES STANDARD DRAWINGS

PERPENDICULAR CURB RAMP

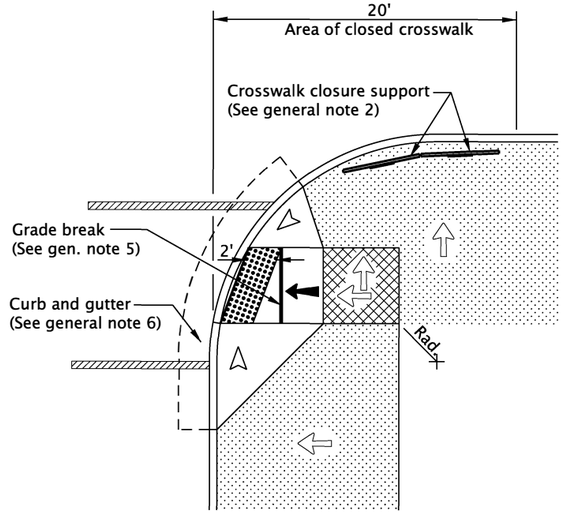
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

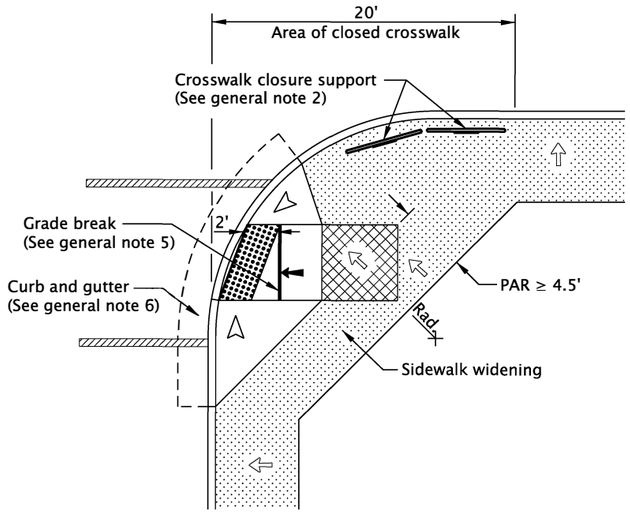
rd912.dgn 19-JUL-2021



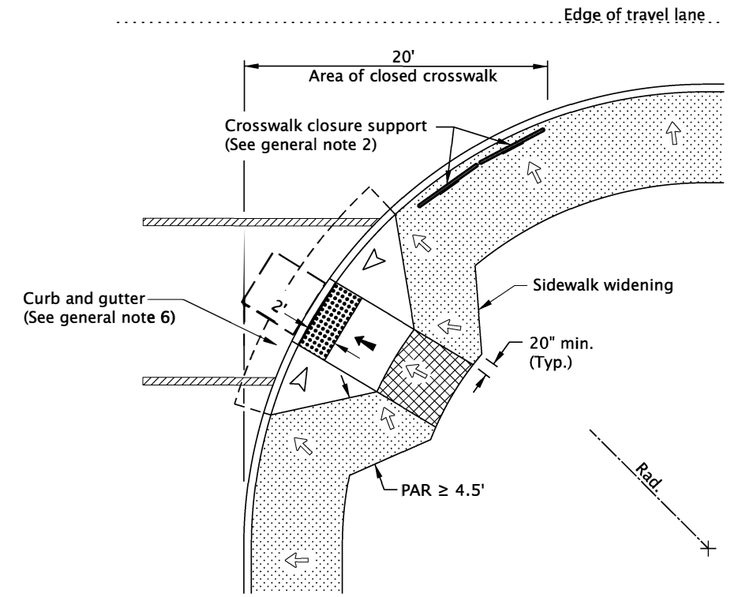
CROSSWALK CLOSURE WITH LANDSCAPE BUFFER STRIP OPTION "PR-5"



CROSSWALK CLOSURE FOR WIDE SIDEWALK OPTION "PR-6"



CROSSWALK CLOSURE FOR NARROW SIDEWALK OPTION "PR-7"



CROSSWALK CLOSURE OPTION "PR-8"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD910 for perpendicular curb ramp details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwg. TM240 for crosswalk closure detail.
3. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
6. Curb and gutter is required at curb ramps.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Flare slope
  (Max. 10% finished surface slope)
- Zero curb exposure
- 4' x 4' clear space
- PAR — Pedestrian Access Route

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

PERPENDICULAR CURB RAMP WITH CLOSURE

2024

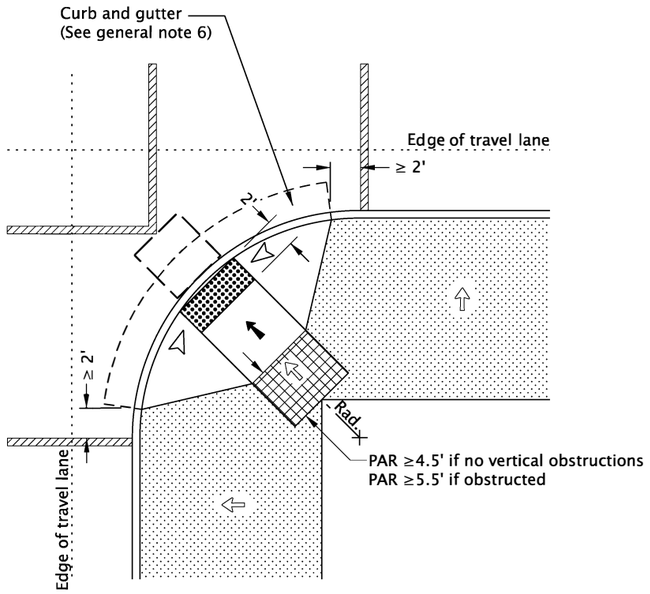
DATE	REVISION DESCRIPTION
07-2020	NEW DRAWING CREATED
01-2022	REVISED DETAIL AND NOTES

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD913**

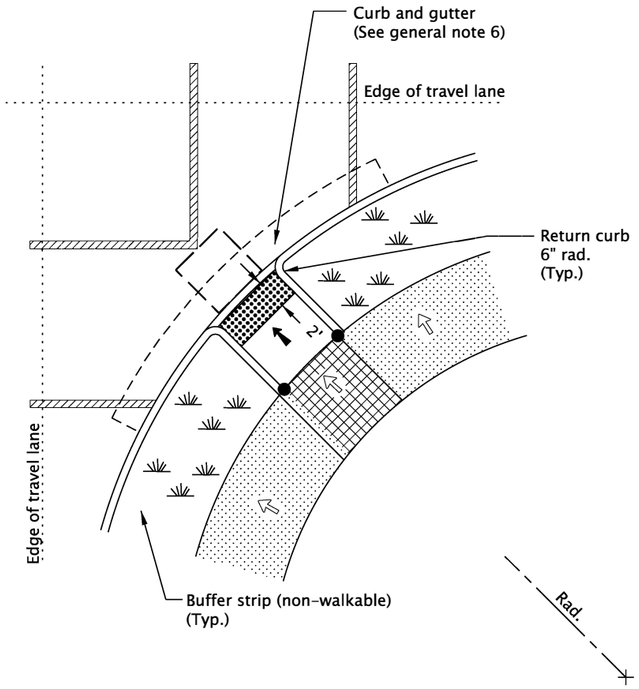
Effective Date: January 1, 2024 - December 31, 2024

14-JAN-2022

RD913.dgn



DIAGONAL CURB RAMP FOR WIDE SIDEWALKS OPTION "PR-9"



DIAGONAL CURB RAMP WITH LANDSCAPED BUFFER STRIP OPTION "PR-10"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.

2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD910 for perpendicular curb ramp details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.

3. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).

4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).

5. Only use curb ramp options approved by City.

6. Curb and gutter is required at curb ramps.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Flare slope
  (Max. 10% finished surface slope)
- 4'x4' clear space
- PAR — Pedestrian Access Route
- Zero curb exposure

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

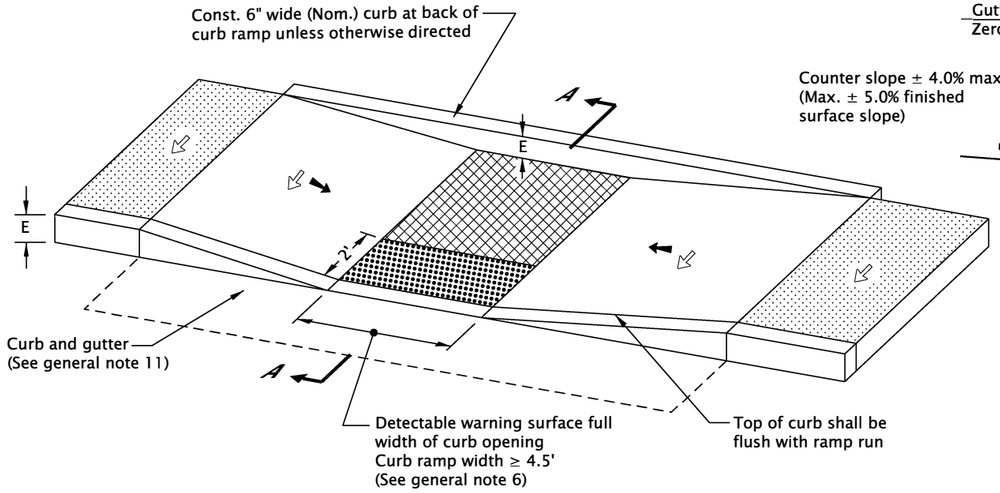
PERPENDICULAR CURB RAMP SINGLE RAMP

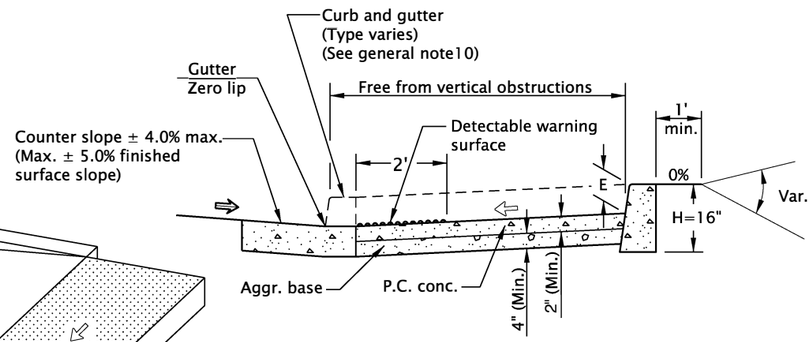
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

rd916.dgn 20-JUL-2020

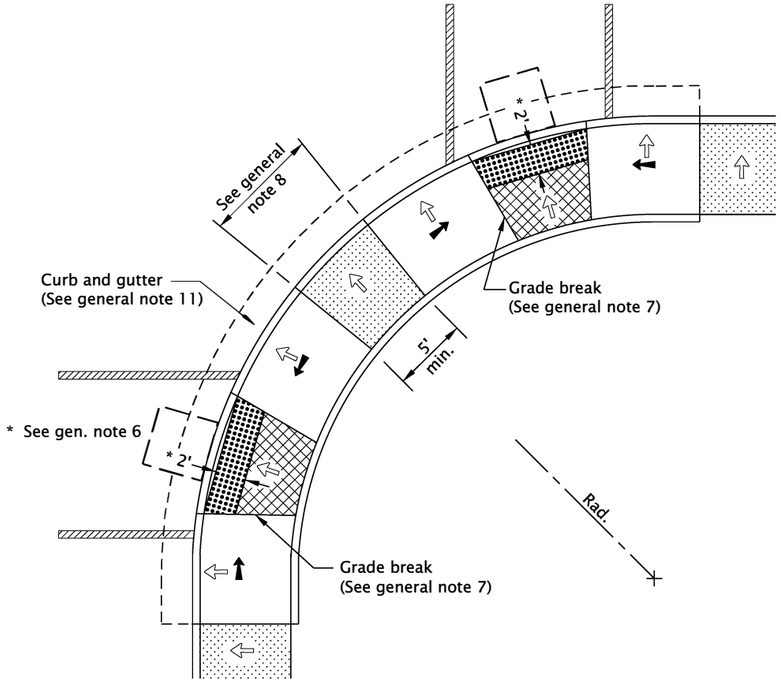
RD916



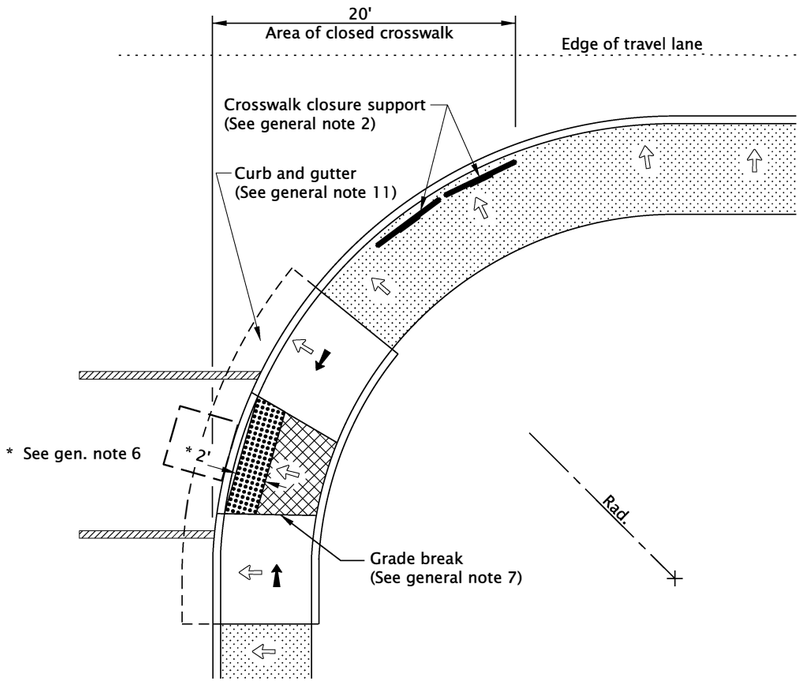


SECTION A-A

PARALLEL CURB RAMP DETAIL



PARALLEL CURB RAMPS OPTION "PL-1"



PARALLEL CURB RAMP WITH CROSSWALK CLOSURE OPTION "PL-2"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.
2. See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwg. TM240 for crosswalk closure detail.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. When 2 ramp runs are immediately adjacent, the curb exposure (E) between the adjacent side may range between 3" and full design exposure.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide.
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. Curb and gutter is required at curb ramps.

LEGEND:

- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending,
  (Max. 5.0% finished surface slope)
  Slope as required for drainage
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

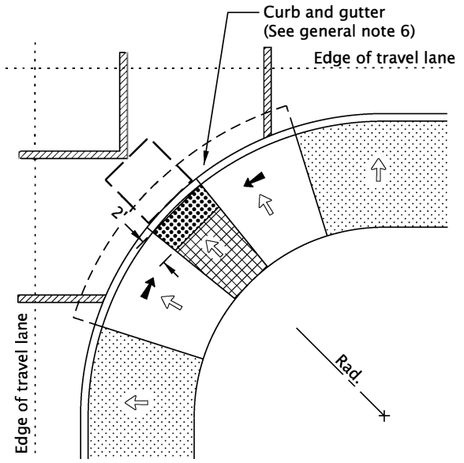
CITY OF THE DALLES STANDARD DRAWINGS

PARALLEL CURB RAMP

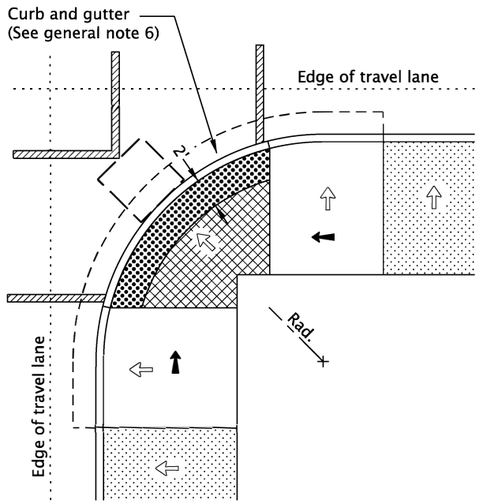
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

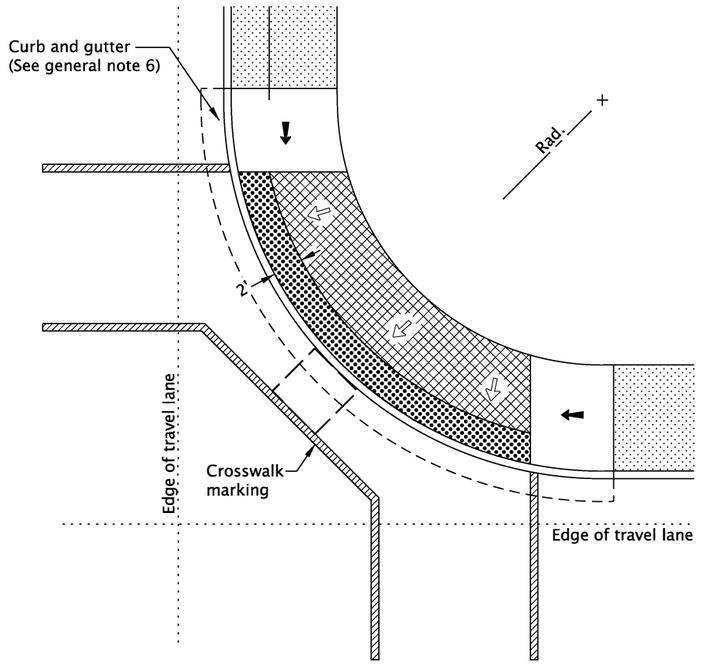
rd920.dgn 19-JUL-2021



DIAGONAL PARALLEL CURB RAMP
OPTION "PL-3"



DEPRESSED CURB RAMP SMALL RADIUS
OPTION "PL-4"



DEPRESSED CURB RAMP LARGE RADIUS
OPTION "PL-5"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.

2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwg. RD920 for parallel curb ramp details.

3. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).

4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).

5. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.

6. Curb and gutter is required at curb ramps.

7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

8. Only use curb ramp options approved by City

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

PARALLEL CURB RAMP SINGLE RAMP

2024

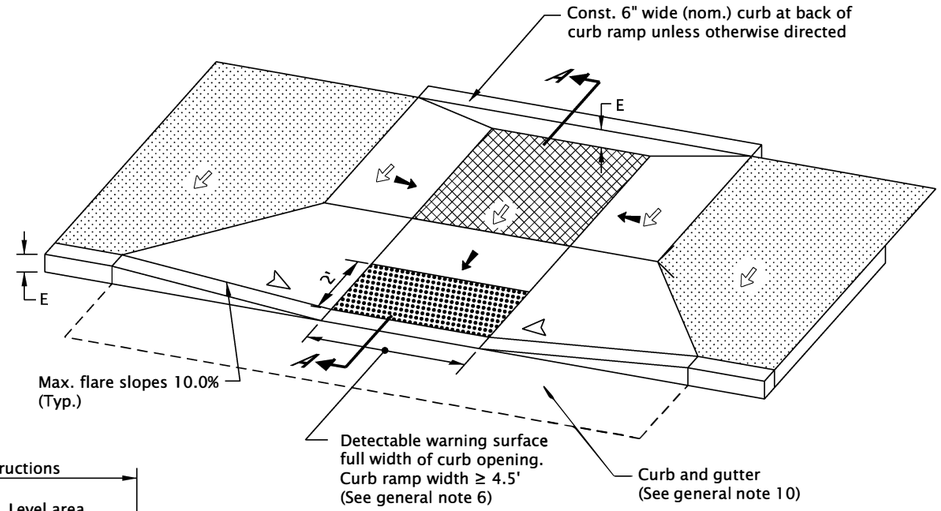
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

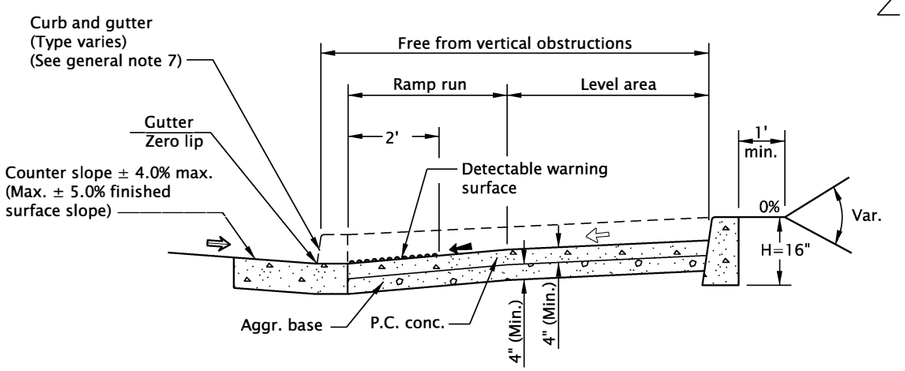
rd922.dgn 20-JUL-2020

RD922

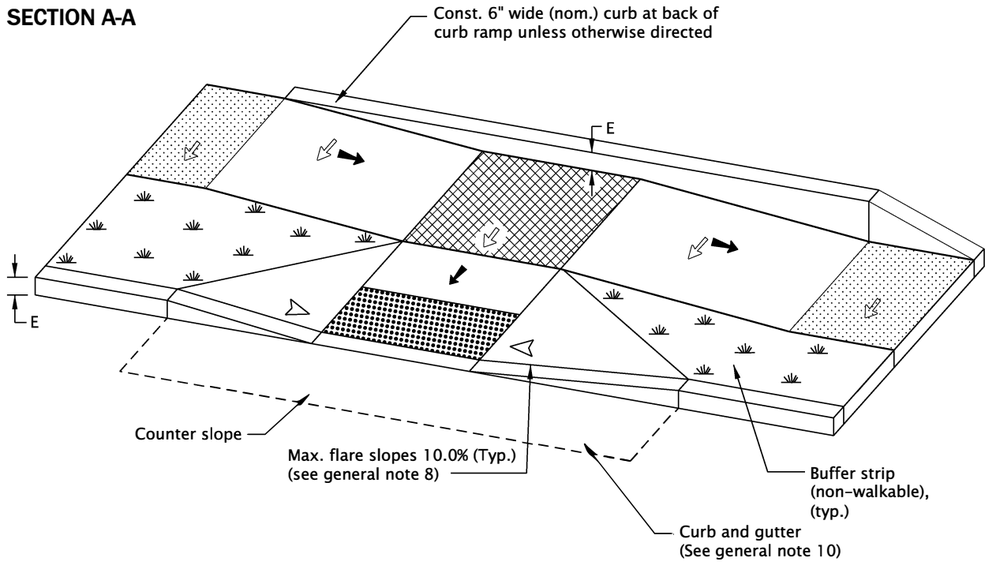
14-JAN-2022

RD930.dgn





SECTION A-A



COMBINATION CURB RAMP DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
8. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide, (see Std. Dwg. RD909 for additional details).
10. On or along state highways, curb and gutter is required at curb ramps.
11. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- ⇦ Counter slope 4.0% max. ascending or descending,
  (Max. 5.0% finished surface slope)
  Slope as required for drainage
- ◁ Flare slope
  (Max. 10% finished surface slope)

All materials shall be in accordance with the current City of The Dalles Standard Specifications.

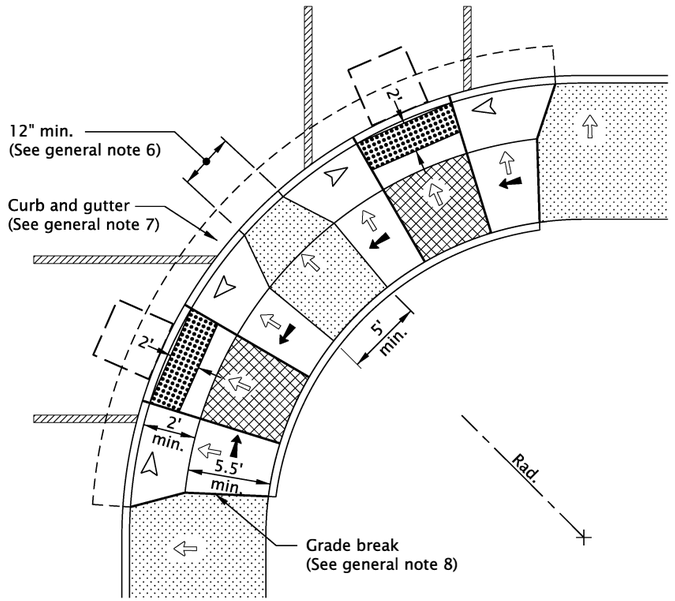
CITY OF THE DALLES STANDARD DRAWINGS

COMBINATION CURB RAMP

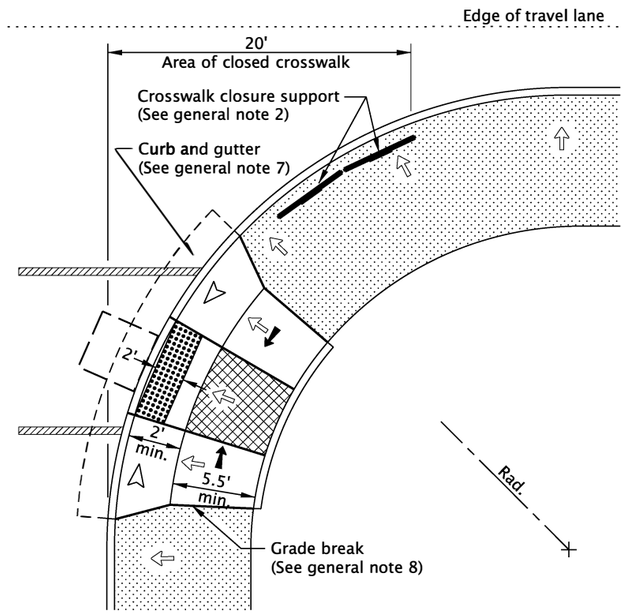
2024

DATE	REVISION DESCRIPTION
07-2020	NEW DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES
01-2022	REVISED NOTES

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD930**



COMBINATION CURB RAMPS
OPTION "CC-1"



COMBINATION CURB RAMP WITH CROSSWALK CLOSURE
OPTION "CC-2"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.

2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details. See Std. Dwg. RD930 for combination curb ramp details.
   See Std. Dwg. TM240 for crosswalk closure detail.

3. Site conditions normally require a project specific design. See project plans for details not shown.

4. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).

5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).

6. When 2 curb ramps are immediately adjacent, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.

7. Curb and gutter is required at curb ramps.

8. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Flare slope
  (Max. 10% finished surface slope)
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

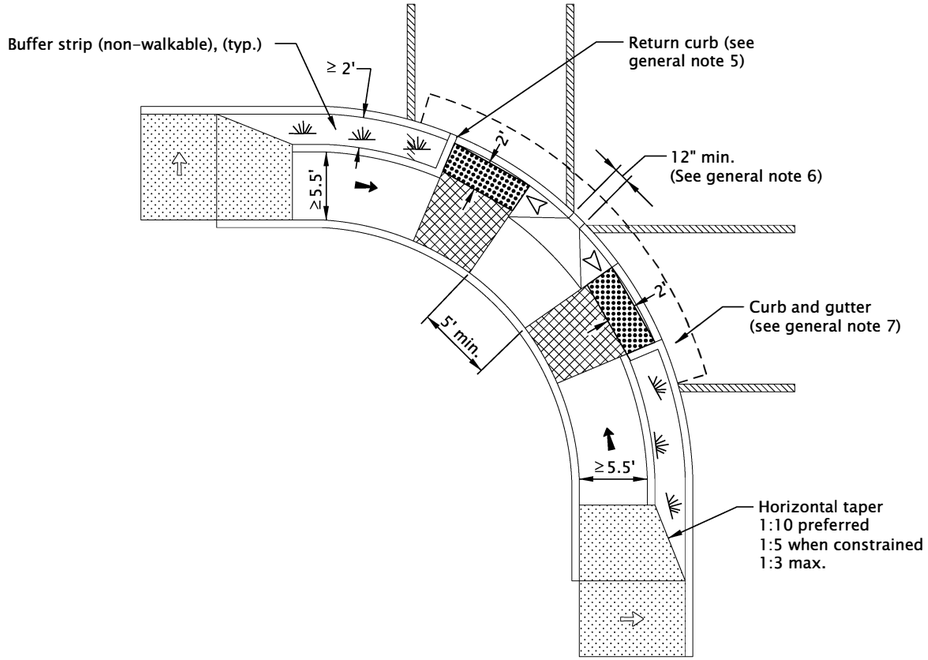
COMBINATION CURB RAMP

2024

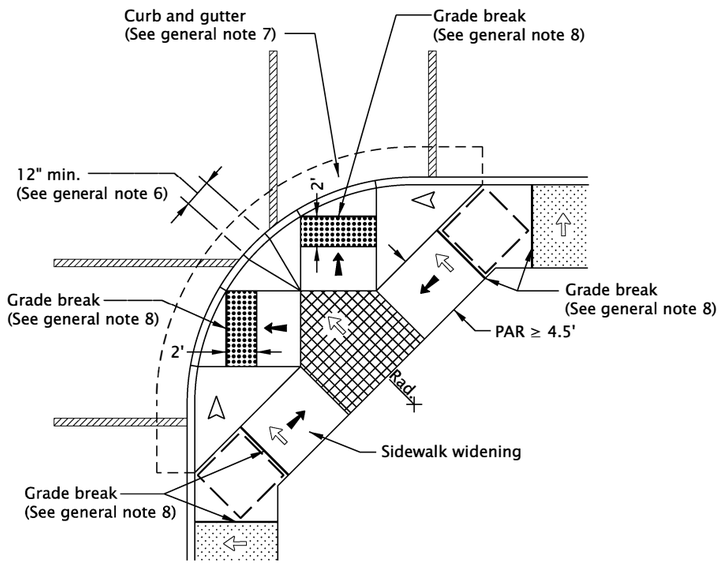
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

rd932.dgn 20-JUL-2020

RD932



PARALLEL COMBINATION WITH LANDSCAPE BUFFER STRIP
OPTION "CC-3"



FOR NARROW SIDEWALKS
OPTION "CC-4"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable C0TD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details. See Std. Dwg. RD930 for combination curb ramp details.
3. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
6. When 2 curb ramps are immediately adjacent, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.
7. Curb and gutter is required at curb ramps.
8. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- ◁ Flare slope
  (Max. 10% finished surface slope)
- E Curb height
- 4' x 4' clear space
- PAR Pedestrian Access Route

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

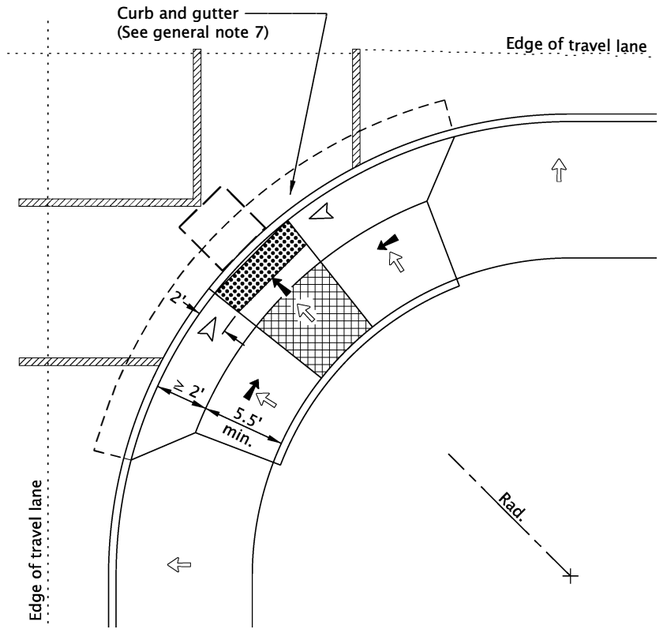
COMBINATION CURB RAMP

2024

DATE	REVISION DESCRIPTION
07-2021	DRAWING CREATED

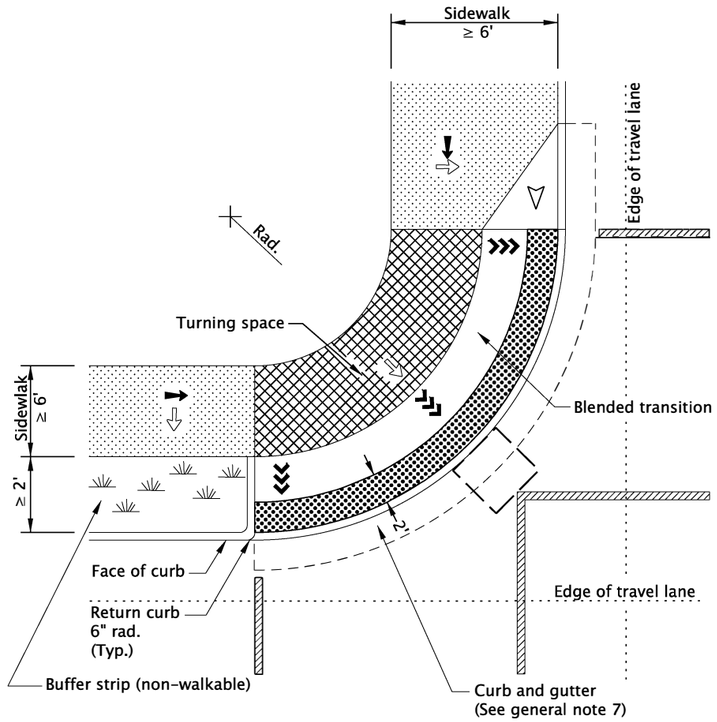
rd936.dgn 19-JUL-2021

rd938.dgn 19-JUL-2021



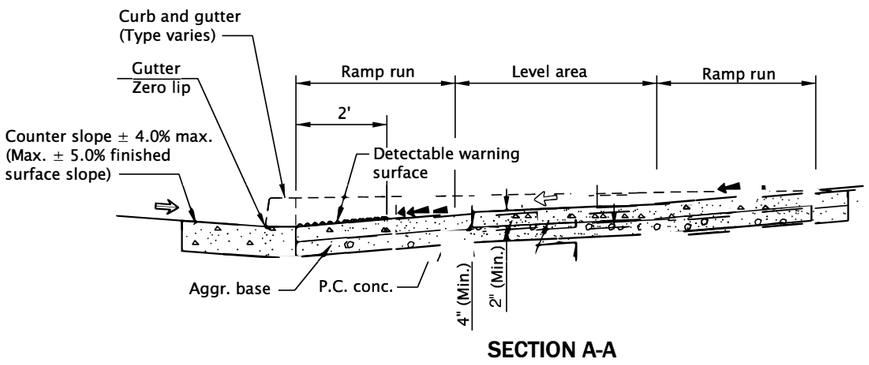
DIAGONAL COMBINATION CURB RAMP OPTION "CC-10"

(Use only when site constraints prohibit installing two curb ramps)

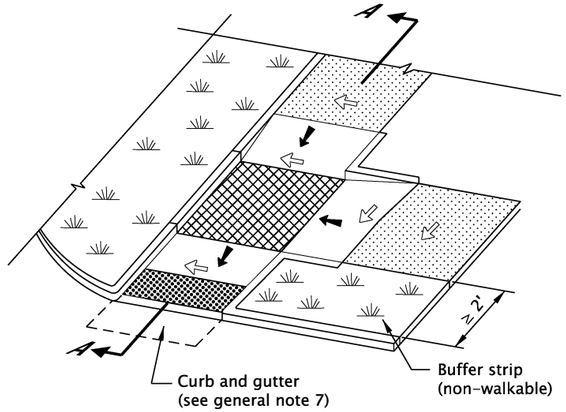


BLENDED TRANSITION COMBINATION CURB RAMP OPTION "CC-11"

(Use only when site constraints prohibit installing two curb ramps)



SECTION A-A



DIRECTIONAL COMBINATION CURB RAMP OPTION "CC-12"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details. See Std. Dwg. RD930 for combination curb ramp details.
3. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, (see Std. Dwg. RD721). Return curb shall not reduce width of approaching sidewalk .
6. Only use curb ramp options approved by the City
7. Curb and gutter is required at curb ramps.
8. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- Running slope 4.0% max.
  (Max. 4.9% finished surface slope)
- Flare slope
  (Max. 10% finished surface slope)
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

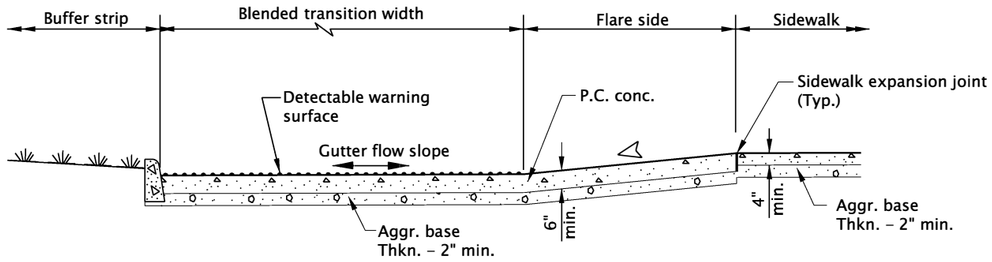
COMBINATION CURB RAMP SINGLE RAMP

2024

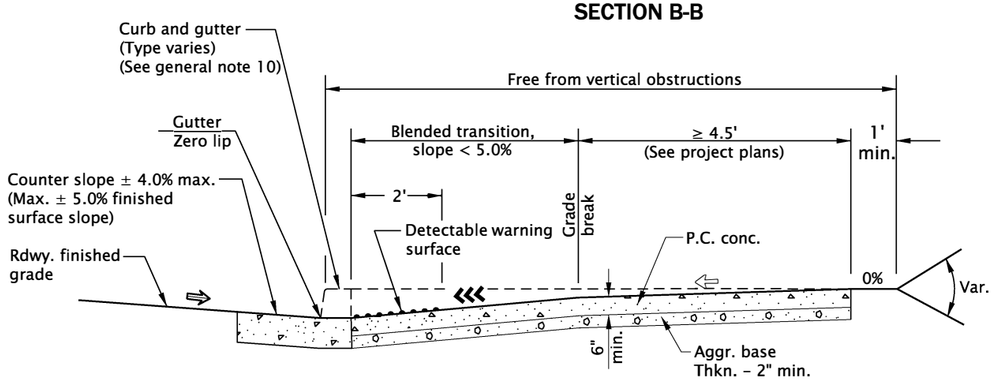
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
01-2021	REVISED DETAIL & NOTES
07-2021	REVISED DETAIL & NOTES

Effective Date: January 1, 2024- December 31, 2024

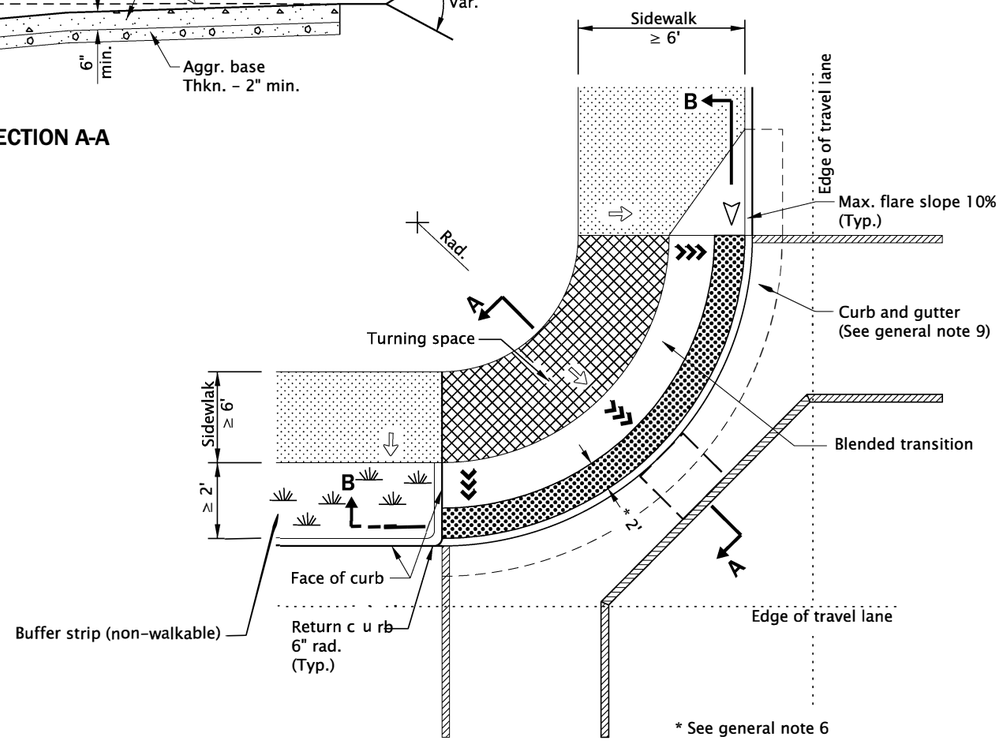
RD938



SECTION B-B



SECTION A-A



DIAGONAL BLENDED TRANSITION CURB RAMP

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1 .Curb ramp details are based on applicable COTDStandards.
2See project plans for details not shown.
See Std. Dwgs. RD700 & RD701 for curbs.
See Std. Dwgs. RD720 & RD721 for sidewalks.
See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Return curb may be provided in lieu of flared slope only if protected from traverse by landscaping. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide.
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. Curb and gutter is required at curb ramps.
12. Only use curb ramp options approved by the City.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⇦ Counter slope 4.0% max. ascending or descending
  (Max. 5.0% finished surface slope)
  Slope as required for drainage
- ⋘ Running slope 4.0% max.
  (Max. 4.9% finished surface slope)
- ◁ Flare slope
  (Max. 10% finished surface slope)
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CITY OF THE DALLES STANDARD DRAWINGS

BLENDED TRANSITION CURB RAMP SINGLE RAMP

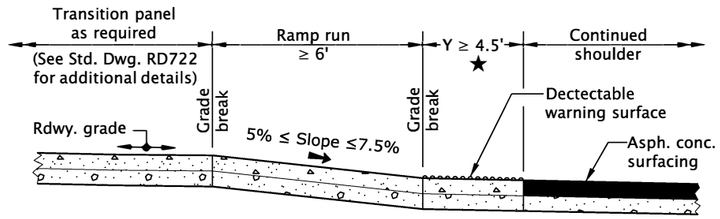
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED NOTES

rd940.dgn 19-JUL-2021

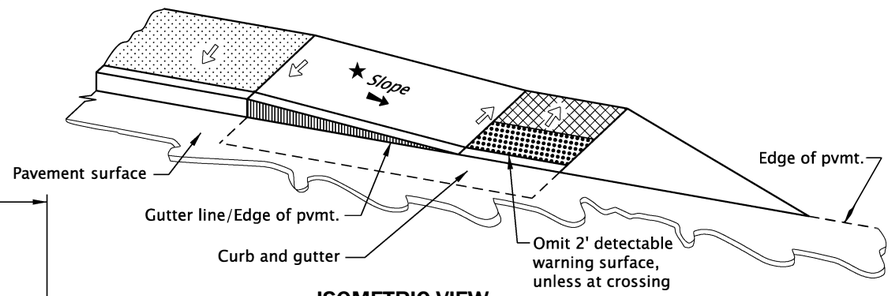
Effective Date: January 1, 2024 - December 31, 2024

RD940

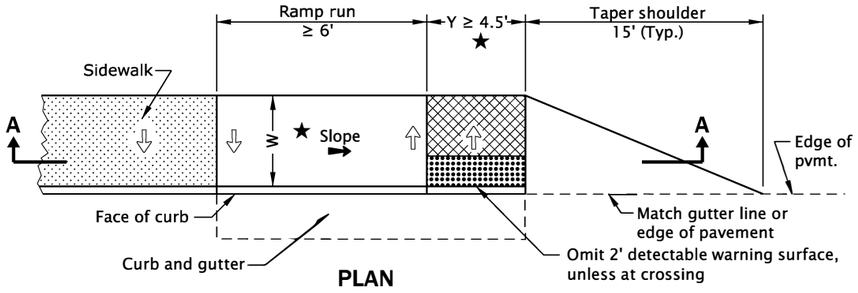


SECTION A-A

★ See general note 12

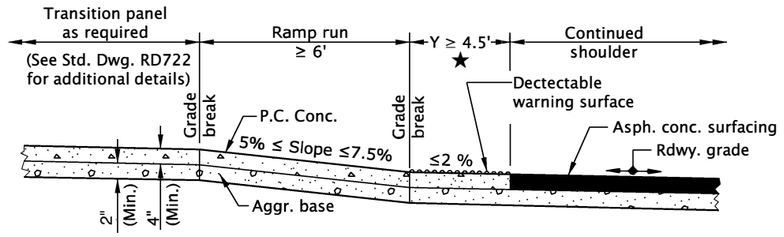


ISOMETRIC VIEW



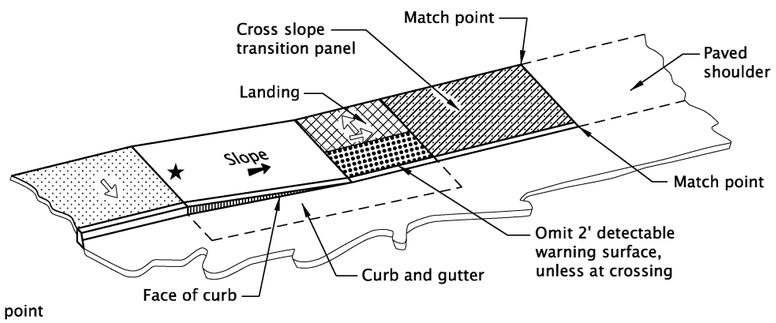
PLAN

TAPER OPTION "EW-1"

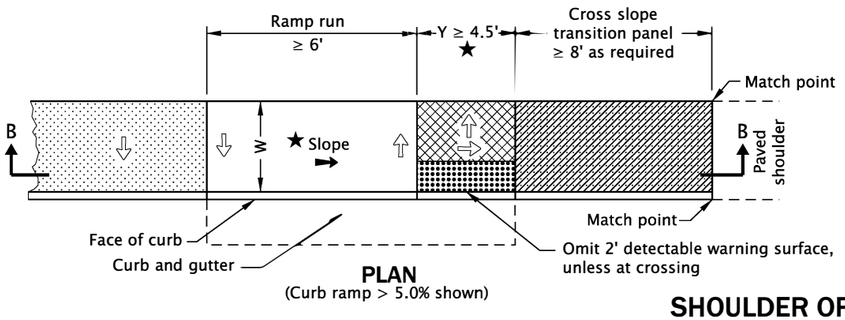


SECTION B-B

★ See general note 12



ISOMETRIC VIEW



PLAN
(Curb ramp > 5.0% shown)

SHOULDER OPTION "EW-2"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.

2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD722 for transition panel details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.

3. Site conditions normally require a project special design. See project plans for details not shown.

4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).

5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).

6. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic.

7. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.

8. When a shared use path terminates, the curb ramp shall be the full width of the path, the turning space Y-dimension should be minimum 8' wide to enable bicycles to ride from ramp to shoulder.

9. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

10. Curb and gutter is required at curb ramps.

11. All end of sidewalk options can be used for curved or tangent roadway sections. Superelated roadways require site specific details.

12. When the slope of the ramp run is greater than 5.0%, a min. landing space of 4.5' x 4.5' with a 1.5% max. slope (2.0% finished surface) is required at the bottom of the curb ramp. See section A-A & section B-B.

LEGEND:

- Sidewalk
- Transition panel
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- W New construction sidewalk width.
  See contract plans for dimension.

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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CITY OF THE DALLES STANDARD DRAWINGS

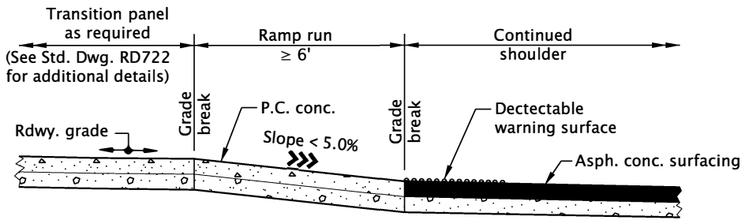
END OF WALK CURB RAMP

2024

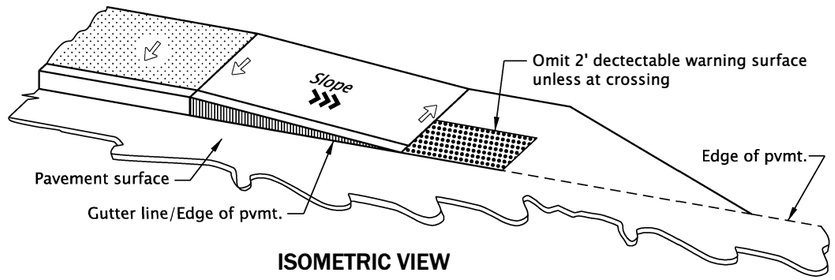
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED

rd950.dgn 20-JUL-2020

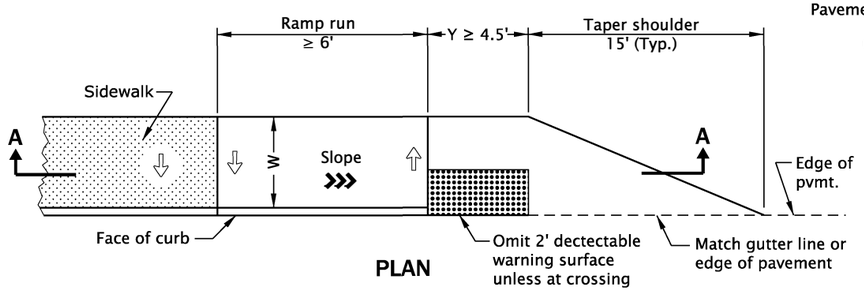
RD950



SECTION A-A

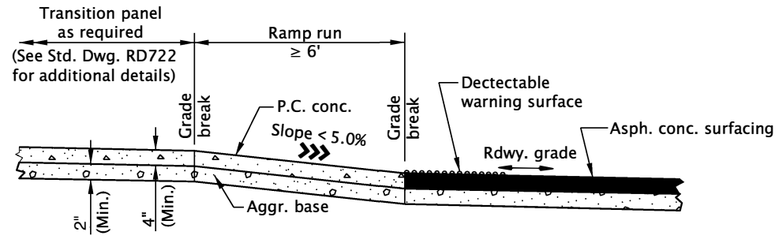


ISOMETRIC VIEW

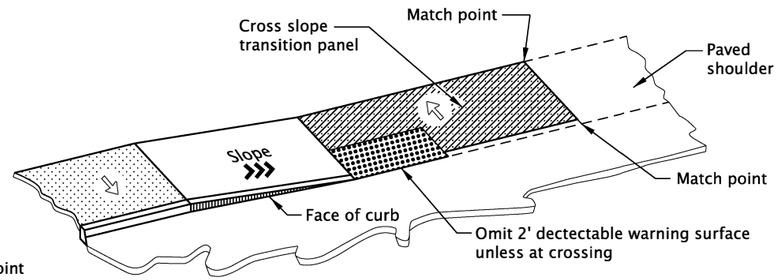


PLAN

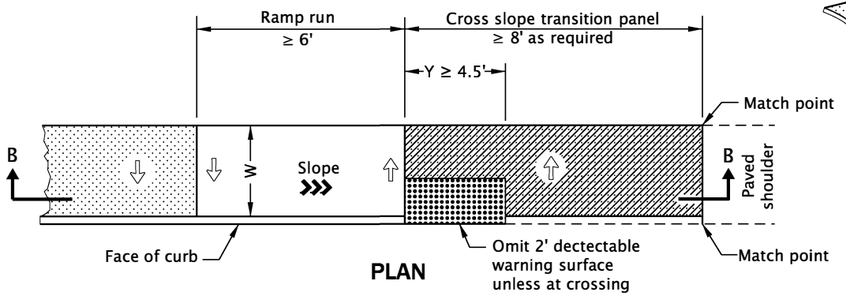
BLENDED TRANSITION TAPER OPTION "EW-3"



SECTION B-B



ISOMETRIC VIEW



PLAN

BLENDED TRANSITION SHOULDER OPTION "EW-4"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD722 for transition panel details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Site conditions normally require a project special design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic. When there is no curb, the detectable warning surface shall be placed at the edge of roadway.
7. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
8. When a shared use path terminates, the curb ramp shall be the full width of the path, the turning space Y-dimension should be minimum 8' wide to enable bicycles to ride from ramp to shoulder.
9. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
10. All end of sidewalk options can be used for curved or tangent roadway sections. Superelated roadways require site specific details.

LEGEND:

- Sidewalk
- Transition panel
- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 4.0% max. (Max. 4.9% finished surface slope)
- W — New construction sidewalk width. See contract plans for dimension.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current CIty of the Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

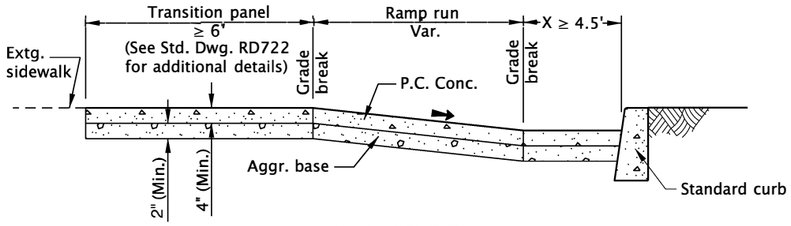
CITY OF THE DALLES STANDARD DRAWINGS

END OF WALK CURB RAMP

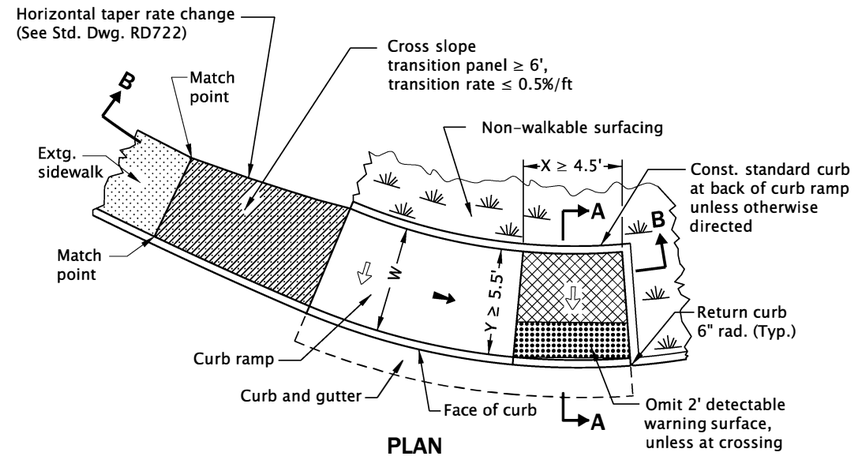
2024

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED NOTES

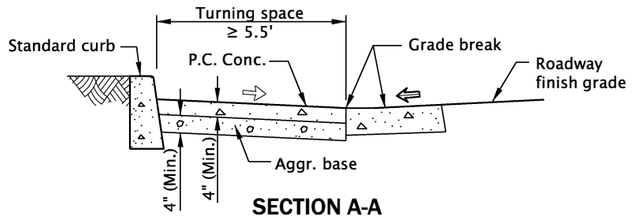
rd952.dgn 19-JUL-2021



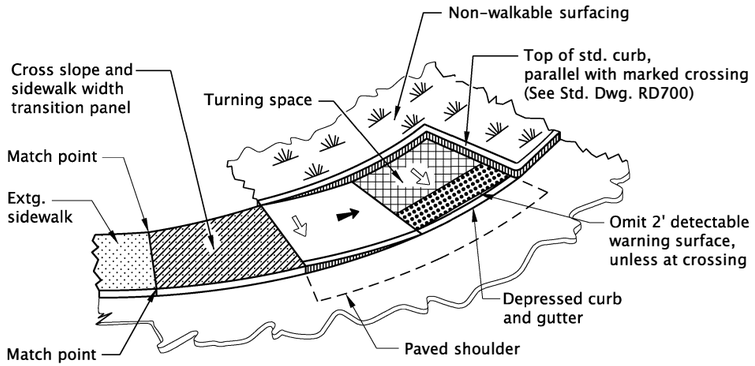
SECTION B-B



PLAN



SECTION A-A



ISOMETRIC VIEW

CURBED OPTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable COTD applicable Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwg. RD722 for transition panel details.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwg. RD920 for parallel curb ramp details.
3. Site conditions normally require a project special design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
8. When a shared use path terminates, the curb ramp shall be the full width of the path, the turning space Y-dimension should be minimum 8' wide to enable bicycles to ride from ramp to shoulder.
9. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
10. Curb and gutter is required at curb ramps.
11. Unique curb ramp option can be used for curved or tangent roadway sections. Superelevated roadways require a site specific detail.

LEGEND:

- Sidewalk
- Transition panel
- Detectable warning surface
- Level area (Turning space/landing)
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- ⇦ Cross slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max.
  (Max. 8.3% finished surface slope)
- ⇦ Counter slope 4.0% max. ascending or descending,
  (Max. 5.0% finished surface slope)
  Slope as required for drainage
- W New construction sidewalk width. See contract plans for dimension

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

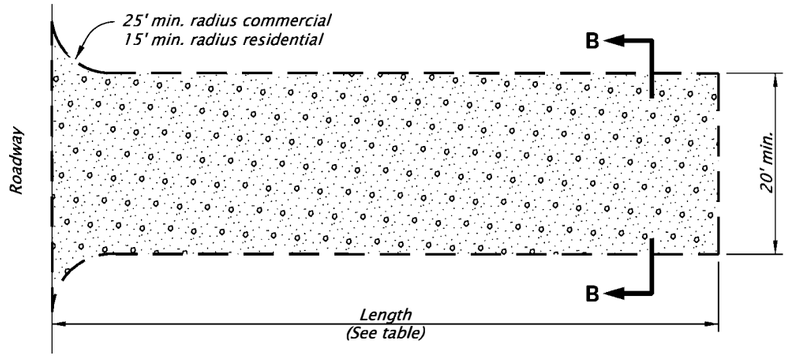
CITY OF THE DALLES STANDARD DRAWINGS

UNIQUE CURB RAMP

2024

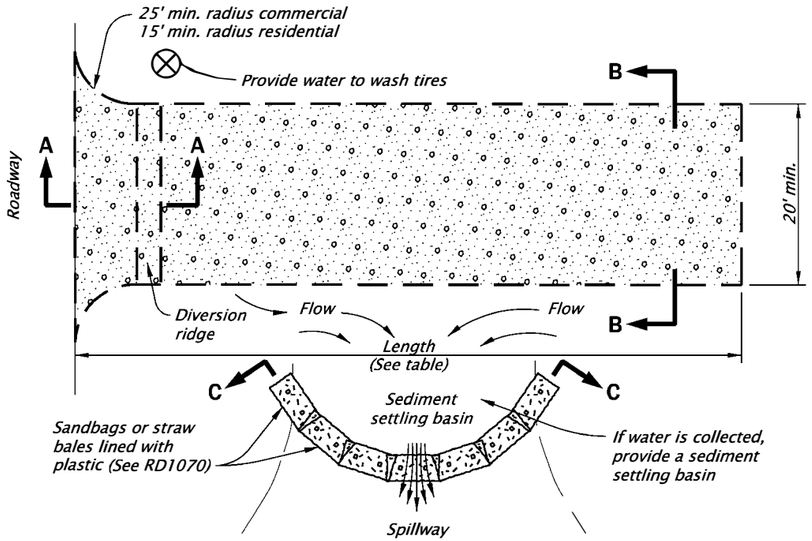
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAILS AND NOTES

rd960.dgn 19-JUL-2021



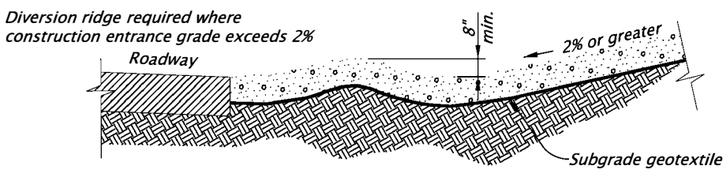
CONSTRUCTION ENTRANCE - TYPE 1

NOT TO SCALE



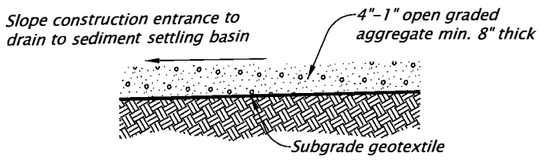
CONSTRUCTION ENTRANCE - TYPE 2

NOT TO SCALE



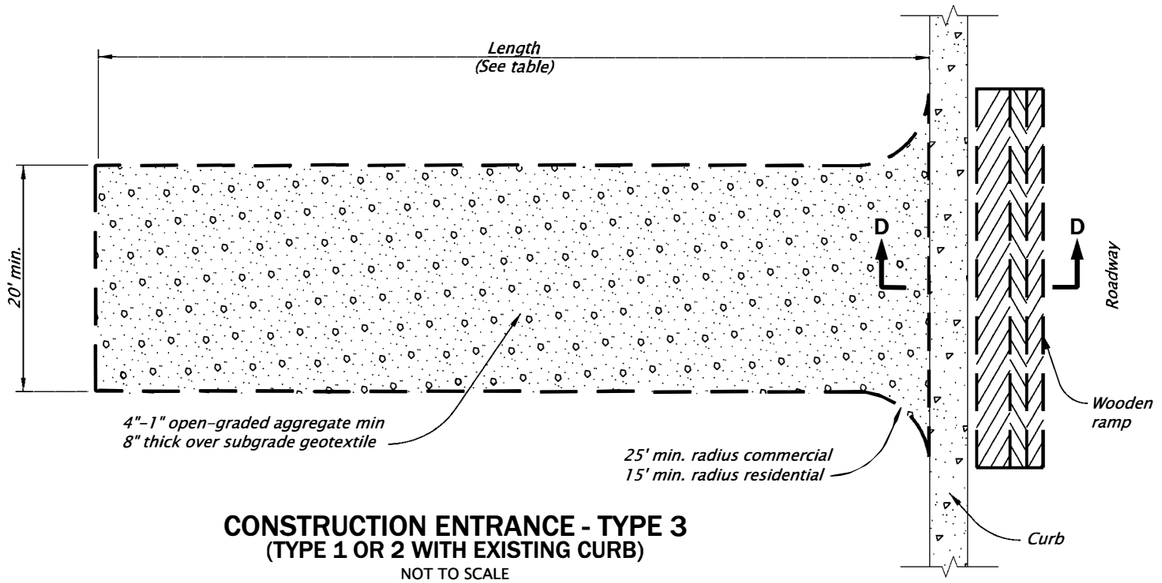
SECTION A-A

NOT TO SCALE



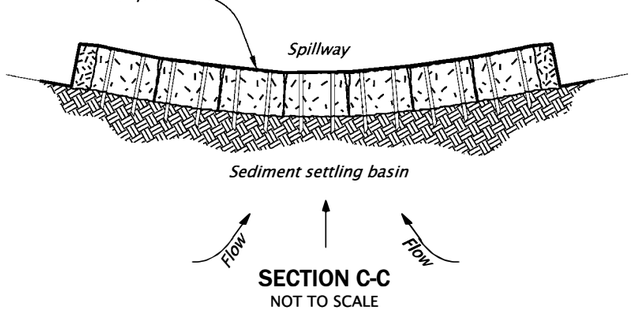
SECTION B-B

NOT TO SCALE



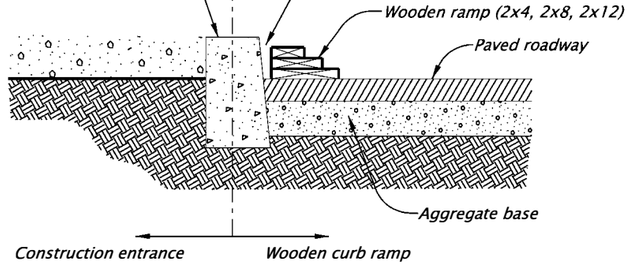
CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)

NOT TO SCALE



SECTION C-C

NOT TO SCALE



WOODEN CURB RAMP SECTION D-D

NOT TO SCALE

NOTES:

1. *The Type 1 entrance is a simple entrance without a diversion ridge or settling basin.*
2. *The wooden ramp may be used on either Type 1 or Type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.*

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	*Area Of Exposed Soil (Acre)*
20	*0.25*
50	*0.25 < A < 1.0*
100	*A > 1.0*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

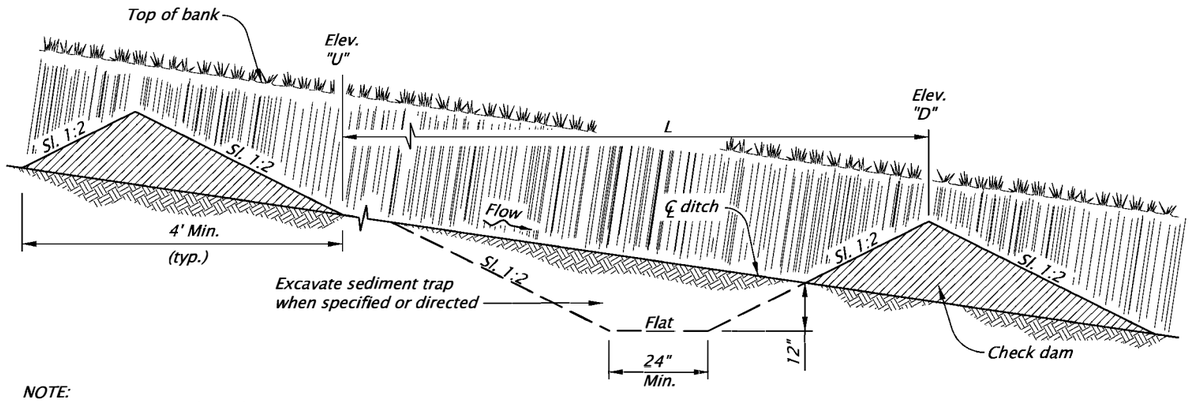
CONSTRUCTION ENTRANCES

2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1000.dgn 01-20-2021

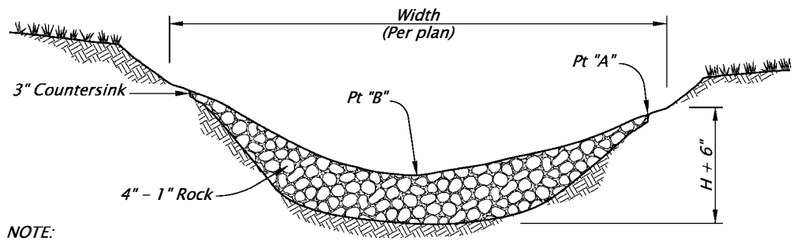
RD1000



NOTE:
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)

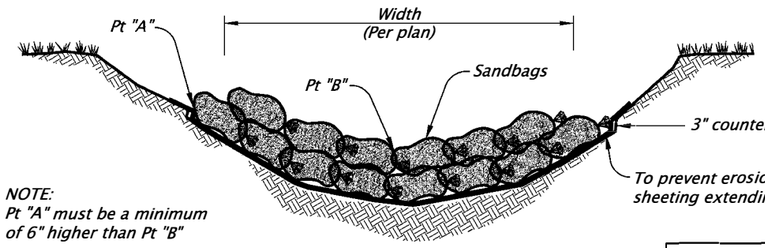
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1

NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

SANDBAG CHECK DAM - TYPE 4

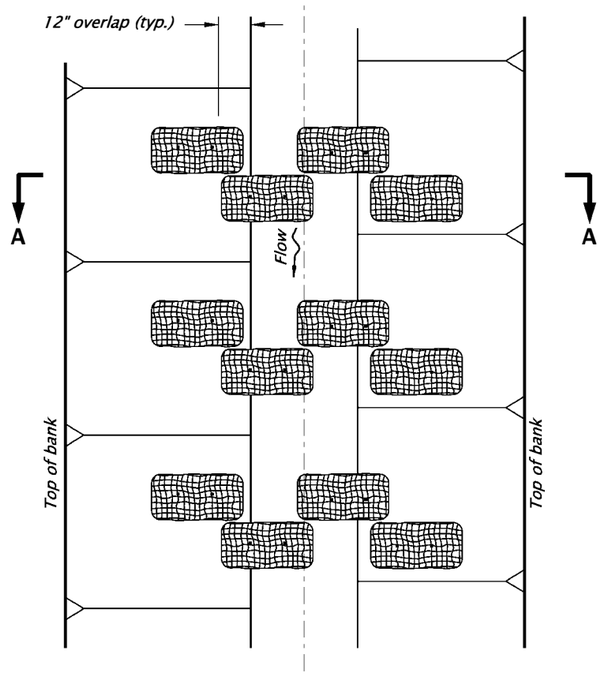
NOT TO SCALE

NOTES:
1. Type 3 - stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.
2. Type 4 - Tightly abut or overlap ends of sandbags at each joint.
3. Spacing between check dams for all check dam types shall comply with the typical profile section shown above.

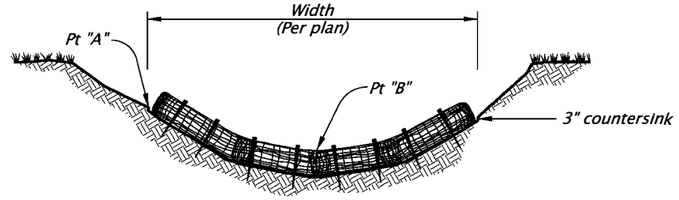
MAXIMUM CHECK DAM SPACING "L"

Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	* *	* *	15'	20'
9%	* *	* *	16'	22'
8%	* *	* *	18'	25'
7%	* *	* *	21'	28'
6%	* *	16'	25'	33'
5%	* *	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

* * Not allowed H = Min. dam height



PLAN



SECTION A-A

BIOFILTER BAG CHECK DAM - TYPE 3

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

CHECK DAMS TYPE 1, 3 AND 4

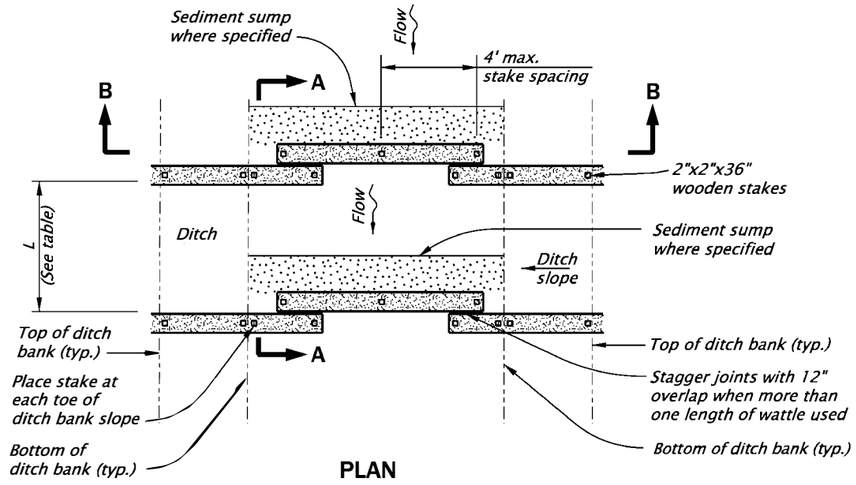
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

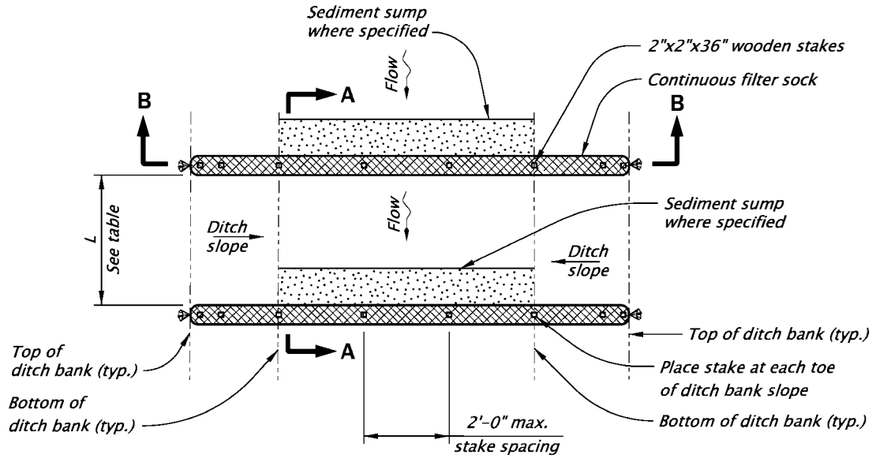
rd1005.dgn 01-20-2021

RD1005

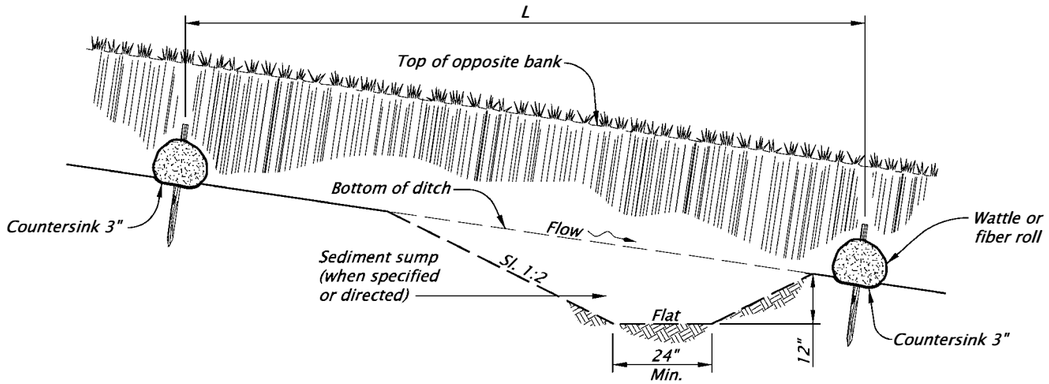
rd1006.dgn 01-20-2021



PLAN



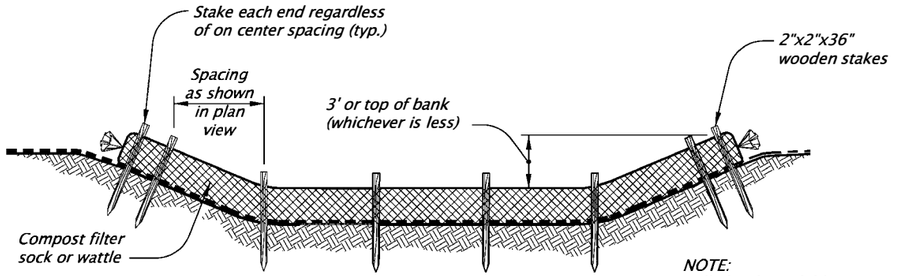
PLAN



SECTION A-A

WATTLE / FIBER ROLL CHECK DAM - TYPE 2

NOT TO SCALE

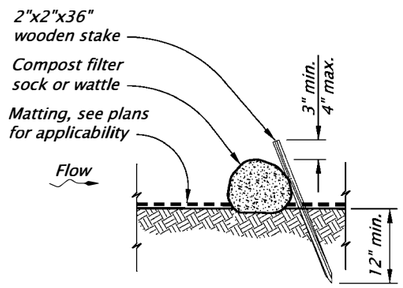


SECTION B-B

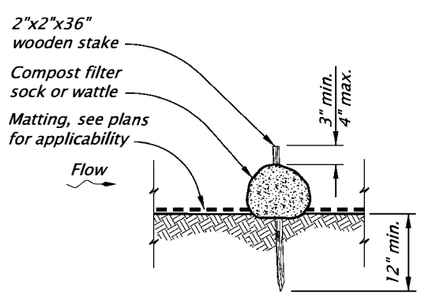
NOTE:
Fully biodegradable compost socks are suitable for permanent installation only. Product becomes too fragile to be moved or removed intact.

COMPOST FILTER SOCK CHECK DAM - TYPE 6

NOT TO SCALE



ALTERNATIVE 1



ALTERNATIVE 2

FIBER ROLL AND COMPOST SOCK STAKING ALTERNATIVES

NOT TO SCALE

RD1006

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	* *	* *	15'	20'
9%	* *	* *	16'	22'
8%	* *	* *	18'	25'
7%	* *	* *	21'	28'
6%	* *	16'	25'	33'
5%	* *	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

* * Not allowed H = Min. dam height

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CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

CHECK DAMS TYPE 2 AND 6

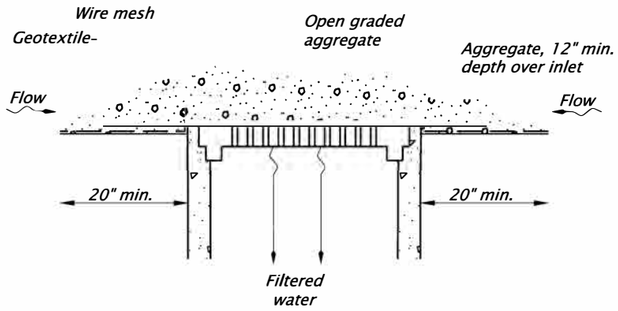
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

Effective Date: January 1, 2024 - December 31, 2024

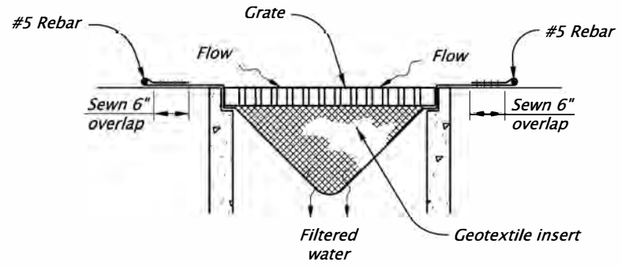
RD1006

rd1010.dgn 01-20-2021



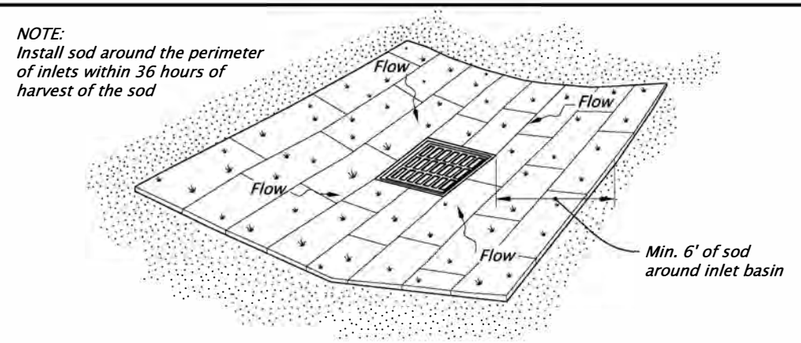
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2

NOT TO SCALE



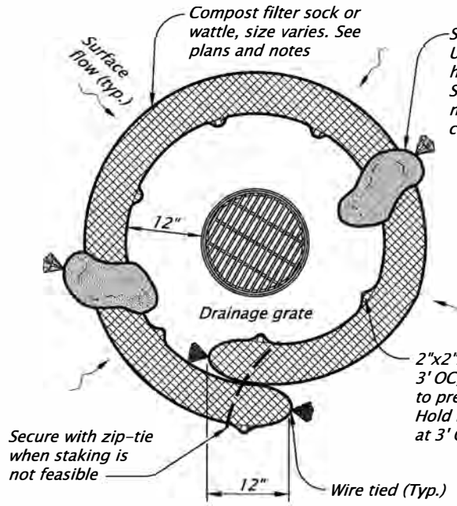
PREFABRICATED FILTER INSERT - TYPE 3

NOT TO SCALE

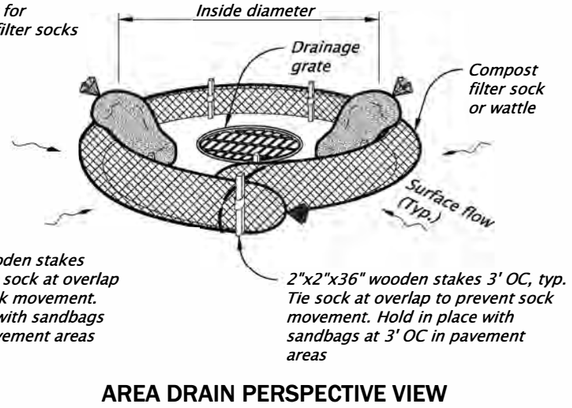


SOD PROTECTION - TYPE 6

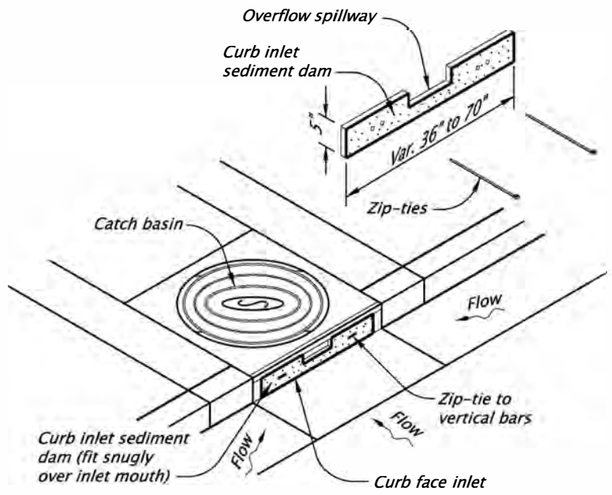
NOT TO SCALE



AREA DRAIN PLAN

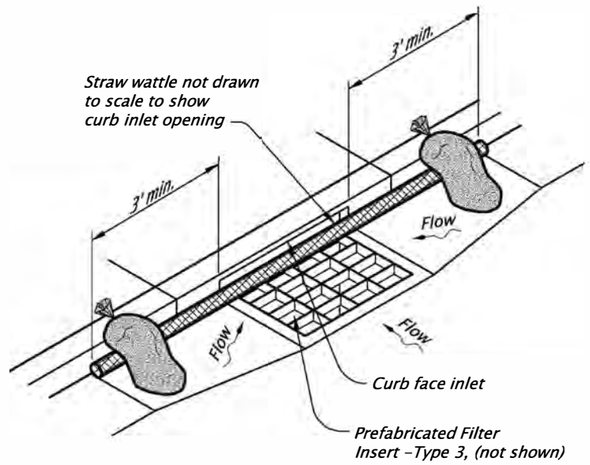


AREA DRAIN PERSPECTIVE VIEW



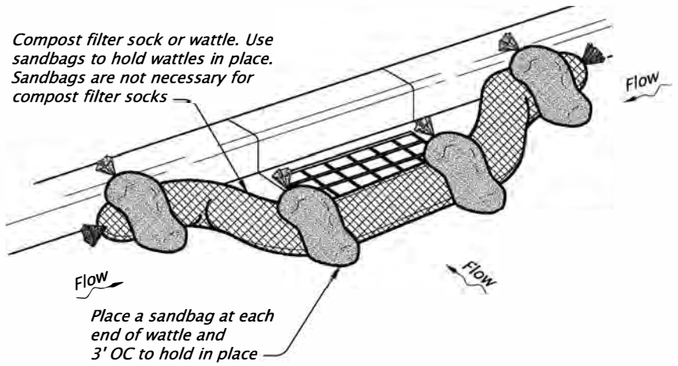
CURB INLET SEDIMENT DAM - TYPE 10

NOT TO SCALE



WATTLE BARRIER WITH FILTER INSERT - TYPE 11

NOT TO SCALE



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

NOT TO SCALE

NOTES:
Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according to the plans, special provisions, and manufacturer recommendations.
Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP's to prevent the potential of sediments entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2"x2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations (12"min., 36" max.).
Use 8" to 12" dia sock on curbside in traffic areas.

(Type 7 cont.)
Use 12" to 18" dia sock in non-traffic areas or areas where the larger socks can be used safely.
use synthetic mesh socks for temporary installations.

Type 10 - Curb inlet sediment dam
Fit curb inlet sediment dam snugly into inlet mouth. Curb inlet sediment dam is required for use with inlet filter insert where at-grade inlet grate and curb inlet are combined at a catch basin.

Type 11 - Wattle barrier with filter insert
Install prefabricated filter insert per Type 3 detail.
Install wattles over opening and 36" to each side of opening tight against curb. Adjust wattle to force storm water to flow through filter insert or wattle prior to leaving the site.
Adjust, replace or modify the inlet protection as needed to prevent sediment laden water from entering the catch basin.

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

INLET PROTECTION
TYPE 2, 3, 6, 7, 10 AND 11

2024

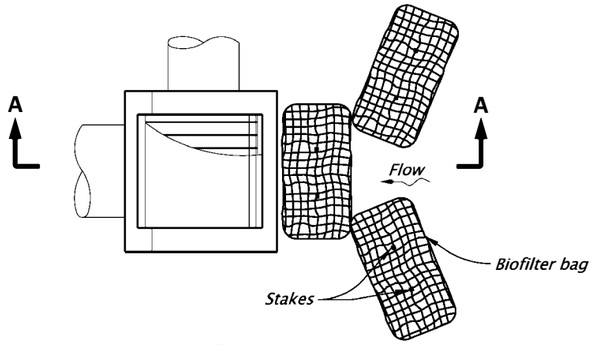
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers
Jan 2021	Moved notes up from overlapping the sheet border

Effective Date: January 1, 2024 - Decemeber 31, 2024

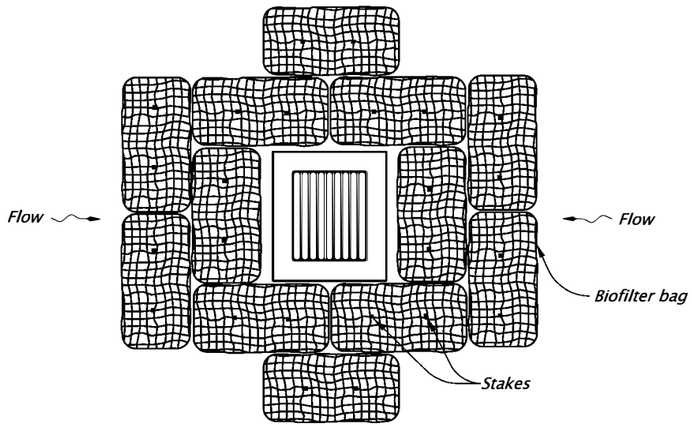
RD1010

RD1010

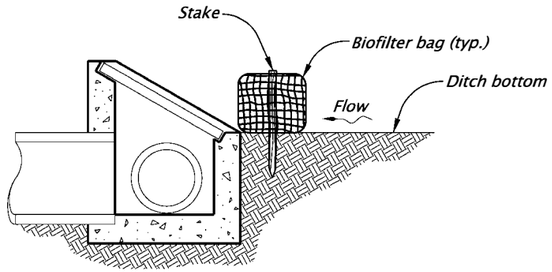
rd1015.dgn 01-20-2021



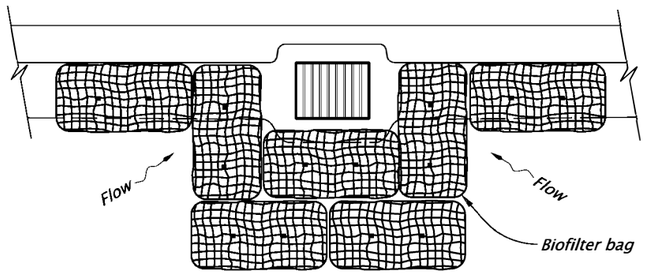
PLAN
DITCH INLET



PLAN
AREA DRAIN



SECTION A-A
DITCH INLET



PLAN
CATCH BASIN

BIOFILTER BAGS - TYPE 4

NOT TO SCALE

NOTES:

1. *Stake biofilter bags with 2"x2"x36" wood stakes, and use a minimum 2 stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags.*
2. *Omit stakes when bags are placed on pavement surface.*
3. *Overlap all bag joints 6".*
4. *Biofilter bags used on active roadways are easily displaced and made ineffective if struck by vehicles. If struck by a cyclist, falls with injury could result. On active roadways alternative inlet protection should be considered.*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

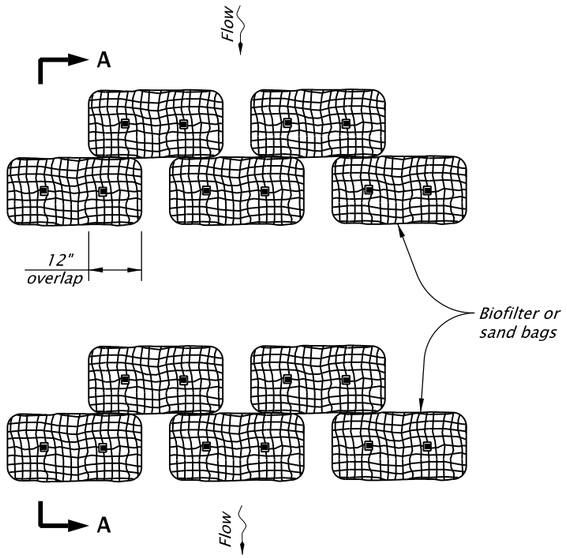
INLET PROTECTION TYPE 4

2024

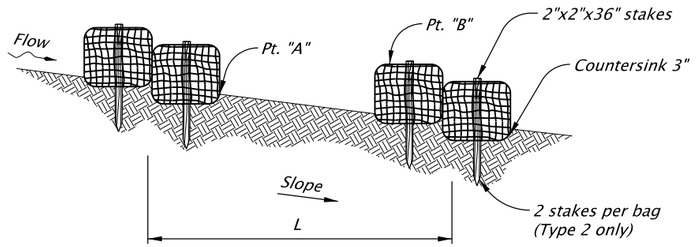
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1015

Effective Date: January 1, 2024 - December 31, 2024 RD1015



PLAN



SECTION A-A

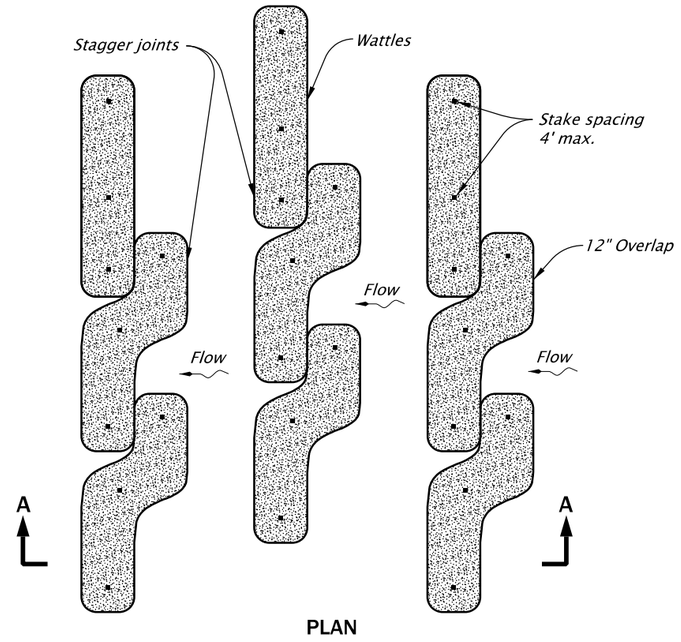
BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4

NOT TO SCALE

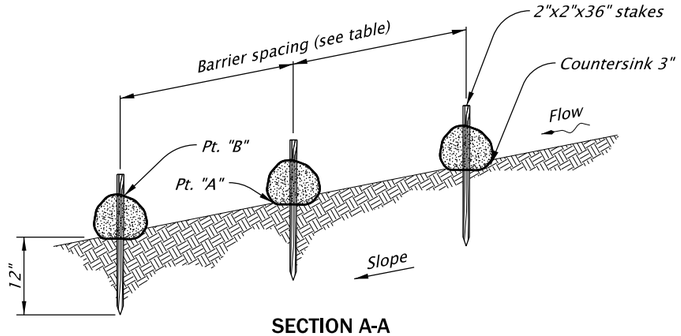
NOTES:

1. *For Type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.*
2. *For Type 2 and Type 4 barriers, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".*

Type 2 – Biofilter bags
Type 3 – Wattles
Type 4 – Sand bags



PLAN



SECTION A-A

FIBER ROLL BARRIER - TYPE 3

NOT TO SCALE

BARRIER SPACING		
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	*% SLOPE*	*MAXIMUM SPACING ON SLOPE*
10% Flatter	*1:10 or Flatter*	*300'*
10 > % ≥ 15	*10 > X ≥ 7.5*	*150'*
15 > % ≥ 20	*7.5 > X ≥ 5*	*100'*
20 > % ≥ 30	*5 > X ≥ 3*	*50'*
Steeper than 30%	*Steeper than 1:3*	*25'*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 2, 3 AND 4

2024

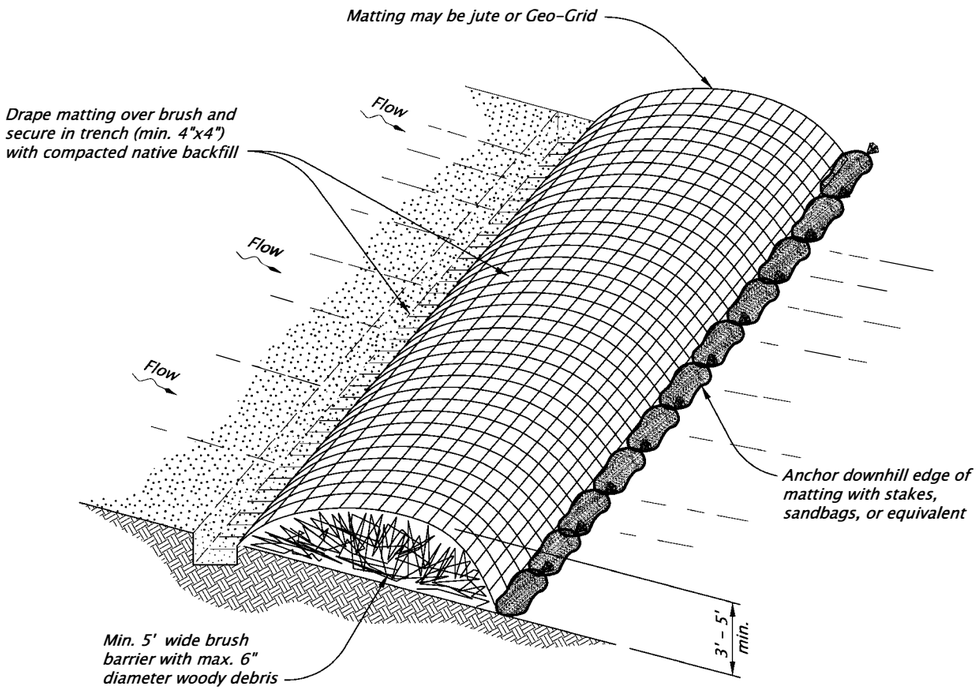
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1030.dgn 01-20-2021

RD1030

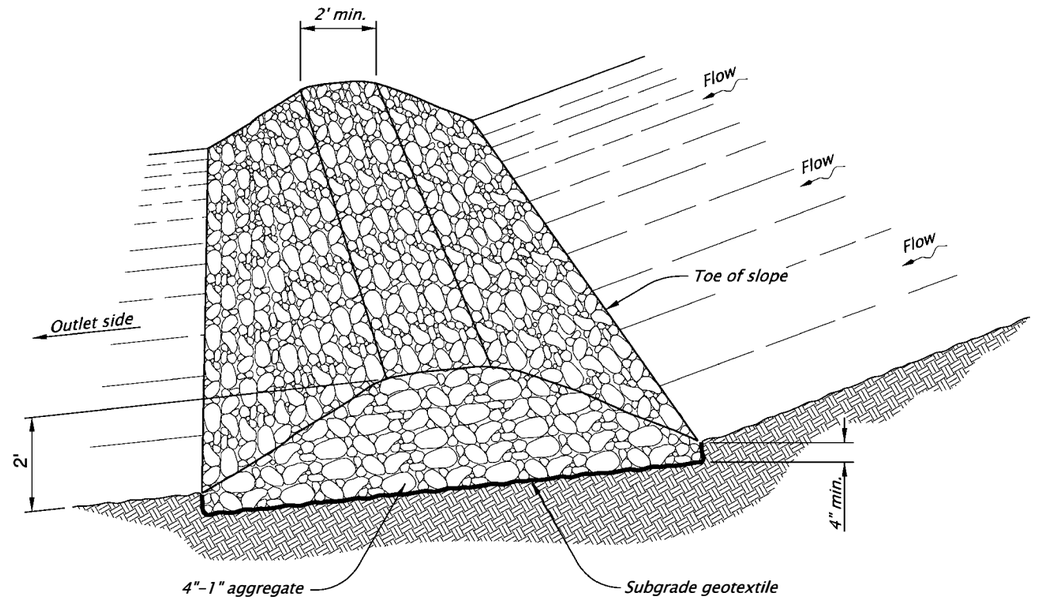
Effective Date: January 1, 2024 - December 31, 2024

RD1030



BRUSH BARRIER - TYPE 5

NOT TO SCALE



AGGREGATE BARRIER - TYPE 6

NOT TO SCALE

NOTES:

1. *Direct diverted flows from the outlet side of the rock filter berm/dams onto a stabilized area, such as vegetation and or rock, or into a sediment trapping facility.*
2. *Embed barrier a min. of 4" into the existing ground/embankments.*
3. *Use 1:3 or flatter side slope. Within the safety clear zone, use 1:6 or flatter side slopes.*
4. *Use 4"-1" clean aggregate.*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 5 AND 6

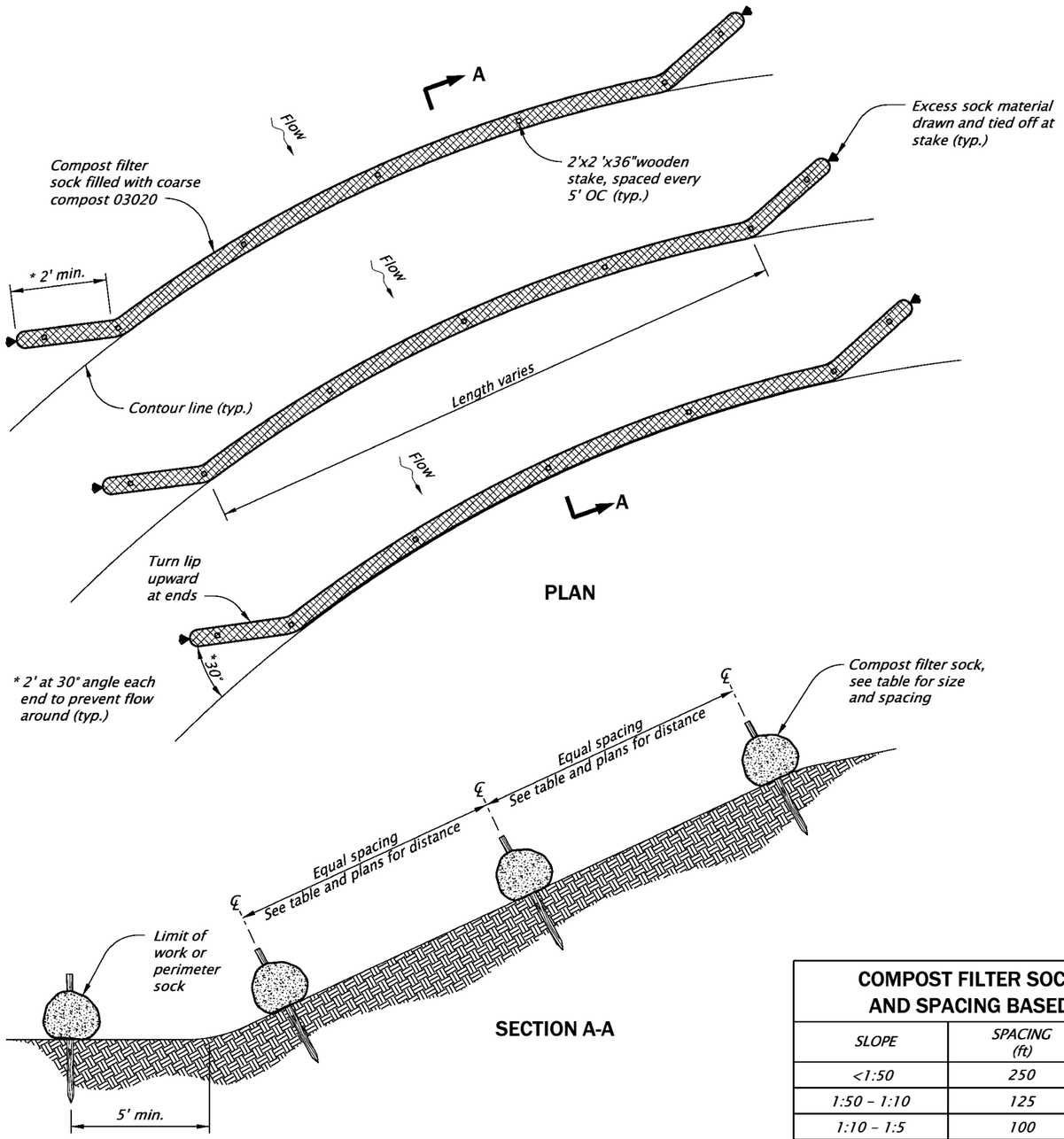
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1031.dgn 01-20-2021

RD1031

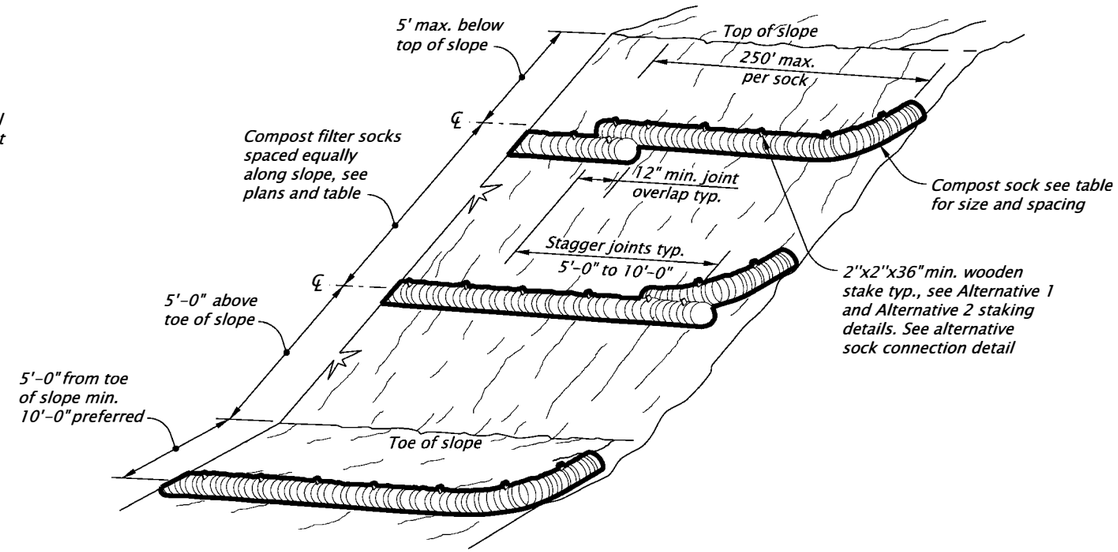
rd1032.dgn 01-20-2021



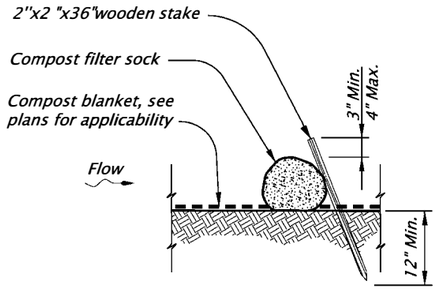
PLAN

SECTION A-A

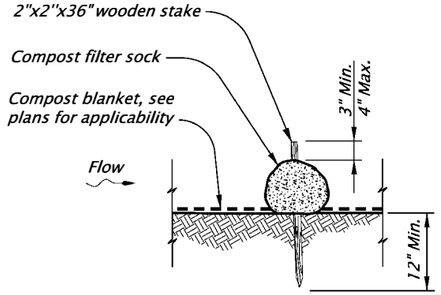
NOTE:
Fully biodegradable compost sock mesh is recommended for permanent installations. Where compost socks must be moved or removed, synthetic sock mesh should be used.



SLOPE APPLICATION - PERSPECTIVE VIEW



ALTERNATIVE 1 (Staking)



ALTERNATIVE 2 (Staking)

COMPOST FILTER SOCK DIAMETER AND SPACING BASED ON SLOPE

SLOPE	SPACING (ft)	DIAMETER (in)
<1:50	250	8
1:50 – 1:10	125	12
1:10 – 1:5	100	12
1:5 – 1:2	50	18
>1:2	25	18

COMPOST FILTER SOCK

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

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OREGON STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 8

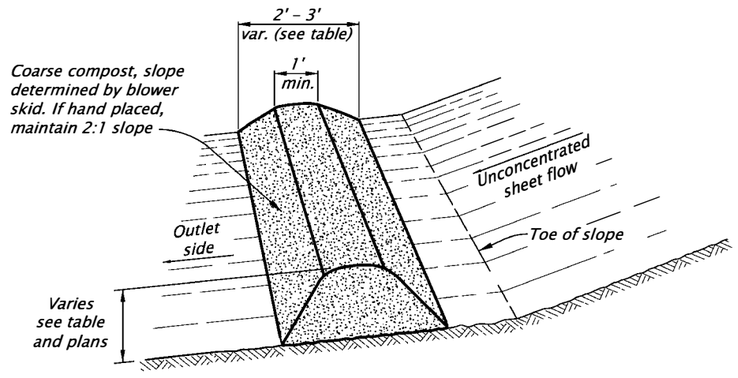
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1032

Effective Date: January 1, 2024 - December 31, 2024

RD1032



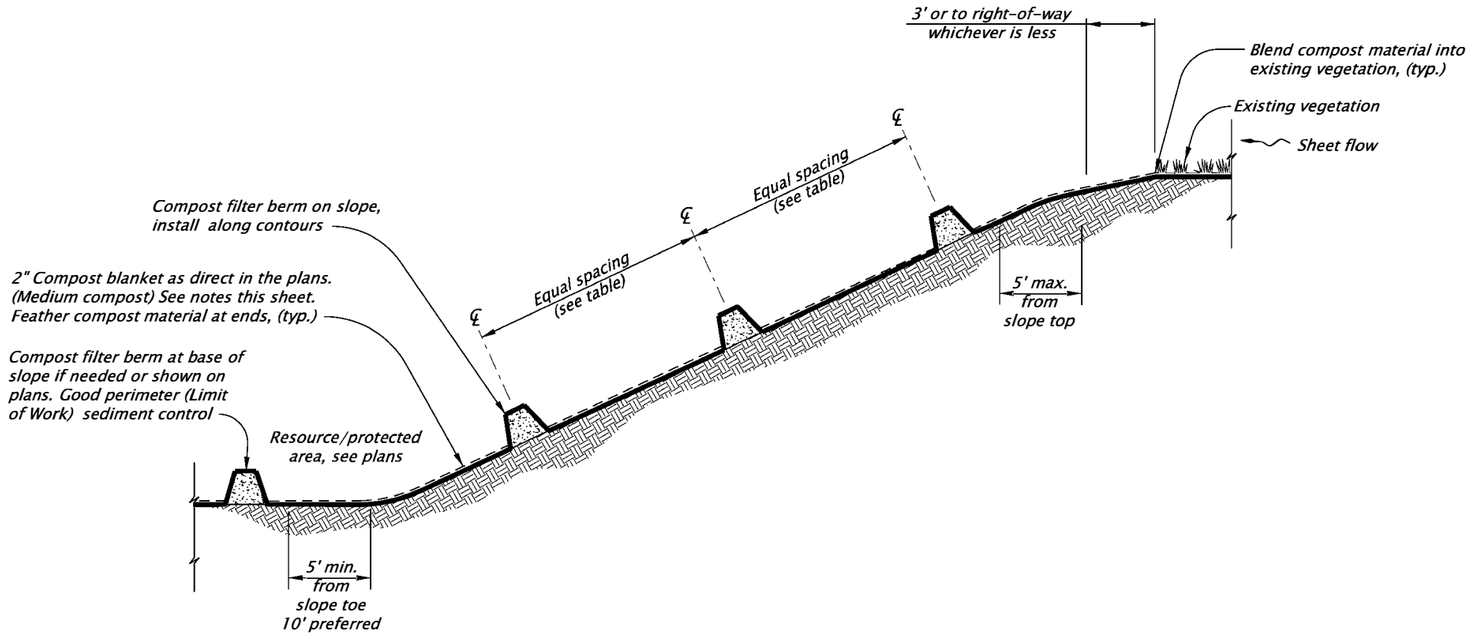
COMPOST FILTER BERM - TYPE 9

NOT TO SCALE

COMPOST FILTER BERM DIMENSIONS AND SPACING BASED ON SLOPE				
SLOPE	BERM SPACING	BERM DIMENSIONS		
		HEIGHT	BOTTOM WIDTH	TOP WIDTH
> 50:1	250 ft	1 ft	2 ft (min.)	1 ft
50:1 – 10:1	125 ft	1 ft	2 ft (min.)	1 ft
10:1 – 5:1	100 ft	1 ft	2 ft (min.)	1 ft
3:1 – 2:1	50 ft	1.3 ft	2.6 ft (min.)	1 ft
> 2:1		1.5 ft	3 ft (min.)	1 ft

NOTES:

1. Compost filter berm's are sediment control devices for areas where runoff occurs as sheet flow. See Section 00280, City of The Dalles Standard Specifications.
2. The maximum drainage area for a continuous berm shall be 1/4 acre per 100 linear feet of filter berm.
3. Where possible, berm's should be placed away from the toe of slopes a minimum of 5 feet (10 feet preferred) to allow for energy dissipation and sediment storage.
4. Direct the outlet side of filter berm, located at base of slope, onto a stabilized area, such as vegetation and/or aggregate.
5. Place filter berm's along or on the ground contour with the ends of the filter berm turned up slope. Adequate area shall be provided behind berm for ponding.
6. Compost filter berm's may be vegetated with temporary or permanent seeding after placement.
1. If placed in area with existing ground vegetation, cut vegetation to 2–4 inches above grade at berm footprint. Do not remove existing vegetation or cut back outside berm footprint unless directed by Agency.
8. If soils are exposed apply compost blanket per details and specifications.



COMPOST FILTER BERM SERIES

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 9

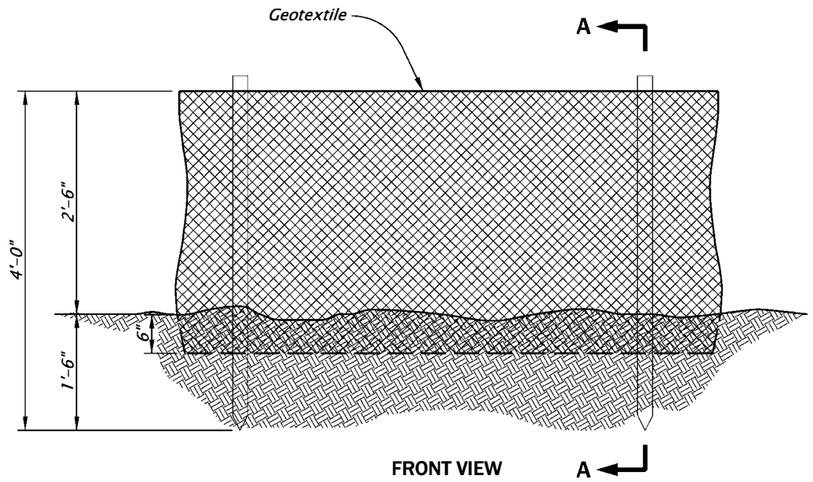
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

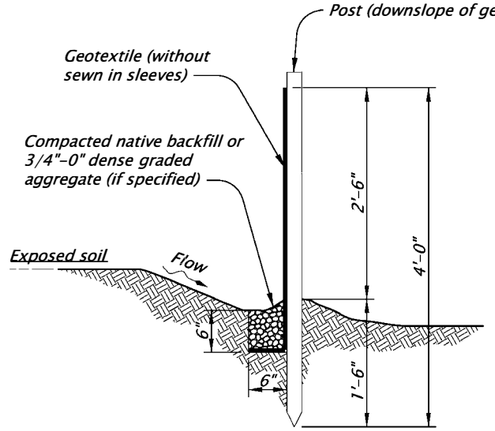
rd1033.dgn 01-20-2021

RD1033

Effective Date: January 1, 2024 - December 31, 2024



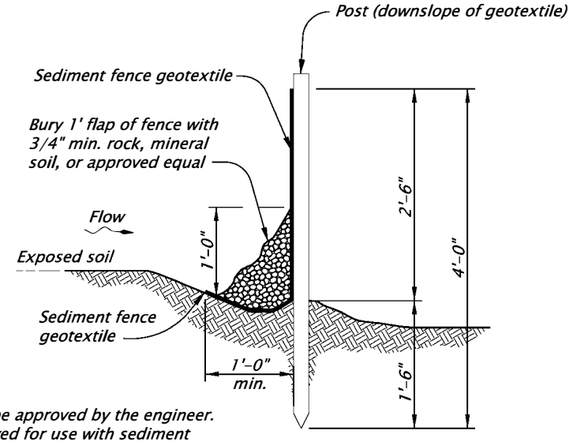
FRONT VIEW



SECTION A-A

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

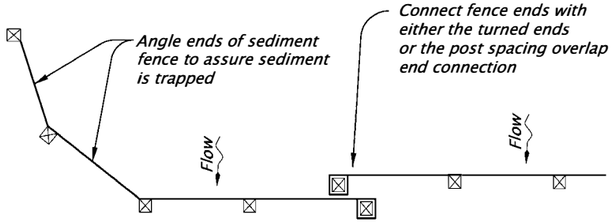
NOT TO SCALE



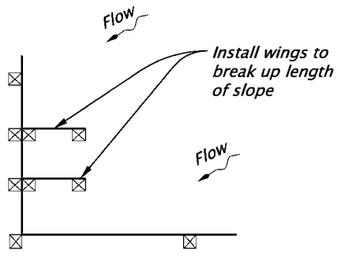
NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

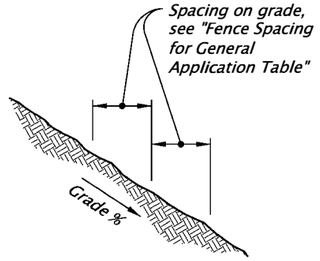
NOT TO SCALE



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



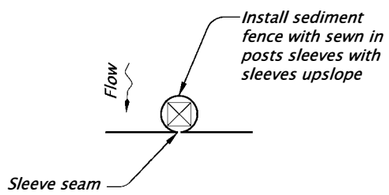
GENERAL NOTES:
1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE

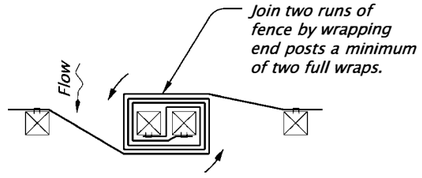
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

POST SPACING TABLE

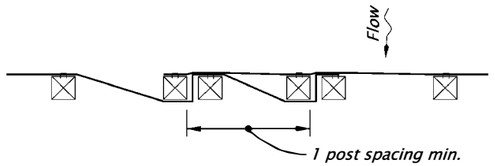
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SEDIMENT FENCE

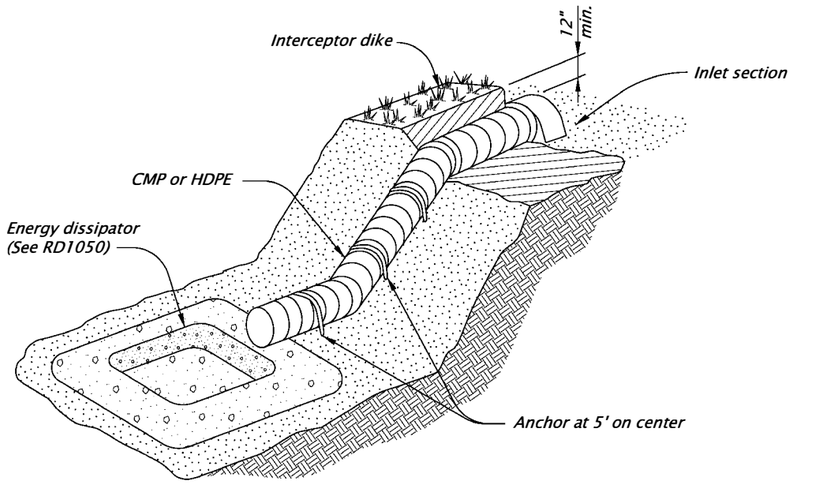
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

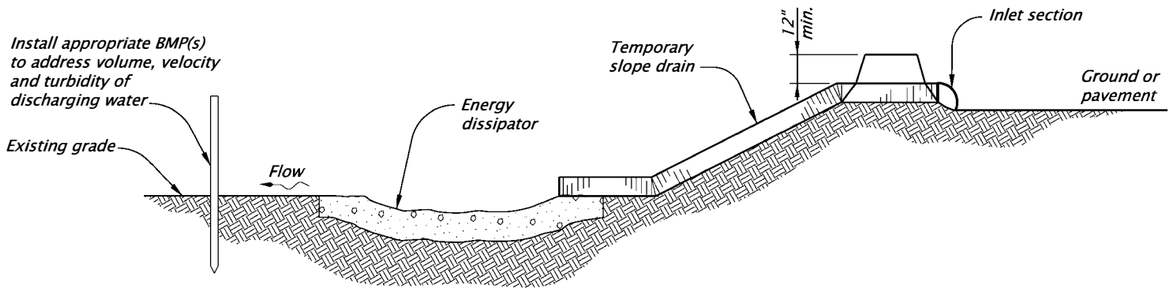
rd1040.dgn 01-20-2021

RD1040

rd1045.dgn 01-20-2021



PERSPECTIVE

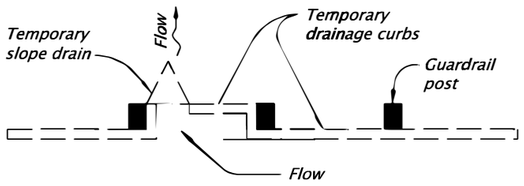


PROFILE

TEMPORARY SLOPE DRAIN
NOT TO SCALE

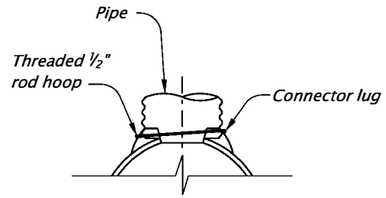
NOTES:

1. *Temporary slope drains shall be used at the top of fill slopes as the embankment is constructed to prevent erosion.*
2. *Temporary drainage curbs shall be used in conjunction with temporary slope drains to prevent erosion on completed slopes and to direct flow into end section.*
3. *All dimensions not indicated will be as directed.*

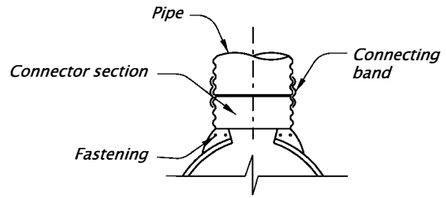


PLAN

TEMPORARY DRAIN AT GUARDRAIL
NOT TO SCALE

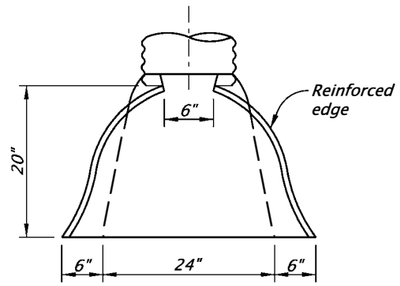


OPTION 1

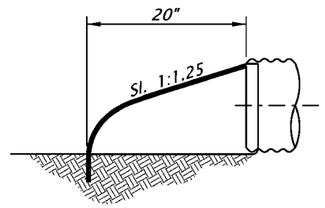


OPTION 2

CONNECTION DETAILS
NOT TO SCALE

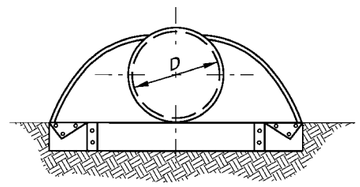


PLAN



SIDE VIEW

PIPE SIZE TABLE		
PIPE		CONTRIBUTING AREA TO SLOPE DRAIN (sq ft)
Slope (min.)	D in. (min.)	
3.8%	6	A < 200
2.5%	8	200 ≤ A < 500
1.9%	10	500 ≤ A < 850
1.5%	12	850 ≤ A < 1400
–	special design reqd.	1400 ≤ A



FRONT VIEW

INLET SECTION DETAILS
NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

TEMPORARY SLOPE DRAIN WITH ENERGY DISSIPATOR

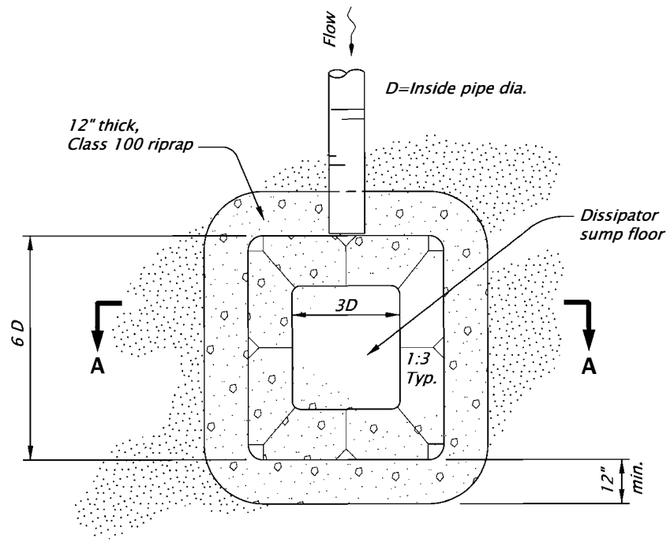
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

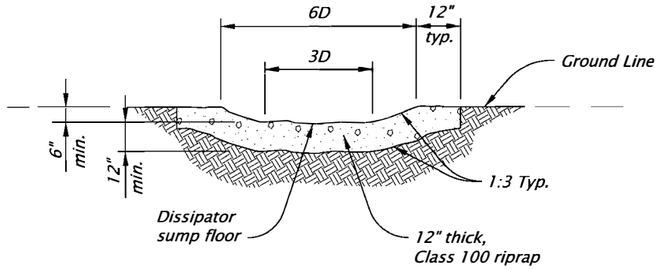
RD1045

Effective Date: January 1, 2024 - December 31, 2024

RD1045



PLAN



SECTION A-A

NOTES:

1. *All dimensions not indicated will be as directed.*
2. *Install level spreader, sediment barrier(s), check dam(s) or other appropriate BMP(s) to address volume, velocity and turbidity of discharge water.*

TEMPORARY SCOUR BASIN / ENERGY DISSIPATOR

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

TEMPORARY SCOUR BASIN / ENERGY DISSIPATOR

2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1 050.dgn 01-20-2021

RD1050

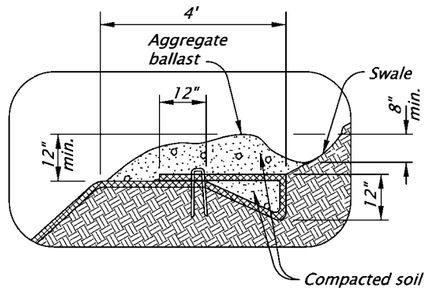


FIGURE A1:
TOP OF BANK ANCHOR TRENCH, H>3' AND TERMINAL SLOPE
NOT TO SCALE

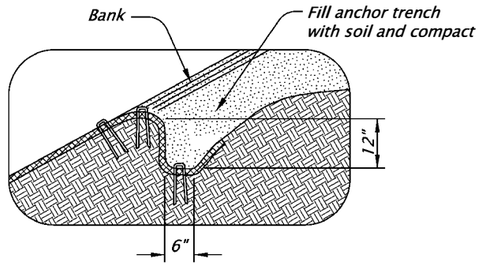


FIGURE A2:
TOP OF BANK ANCHOR TRENCH, H<3'
NOT TO SCALE

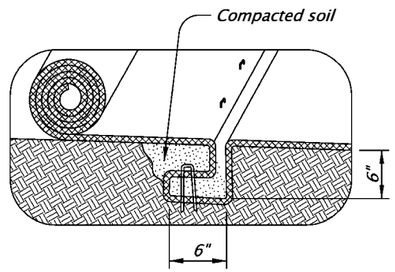


FIGURE A3:
CHANNEL CHECK SLOT
NOT TO SCALE

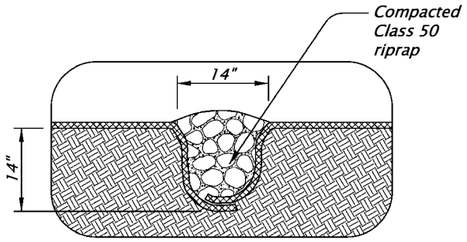


FIGURE A4:
CHANNEL CHECK SLOT WITH ROCK BACKFILL
NOT TO SCALE

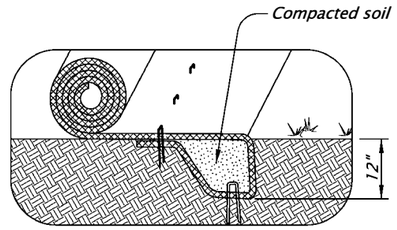
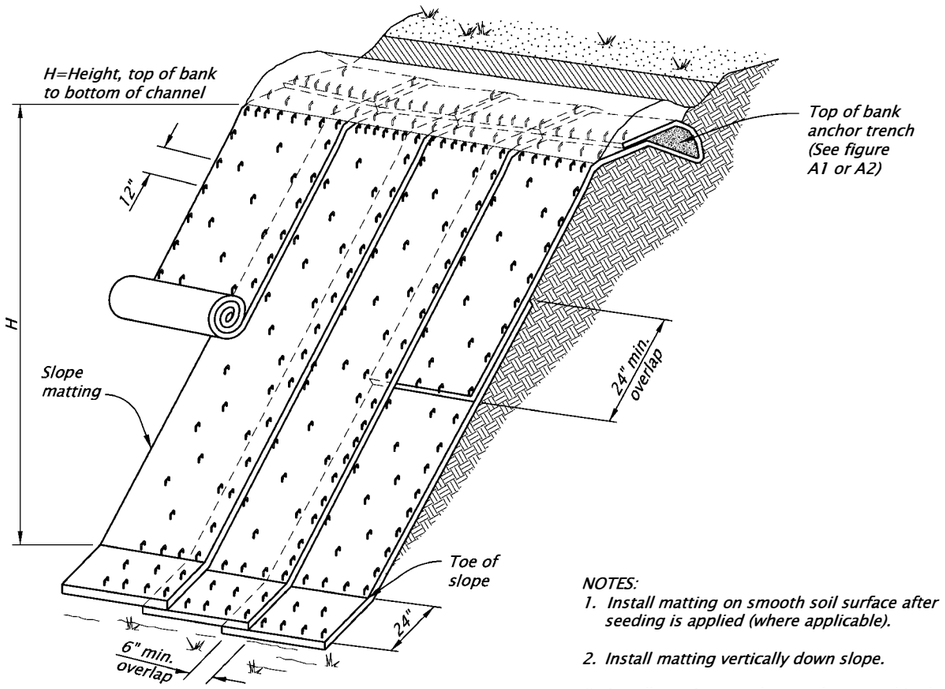
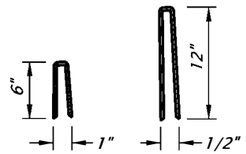


FIGURE A5:
INITIAL CHANNEL ANCHOR TRENCH
NOT TO SCALE

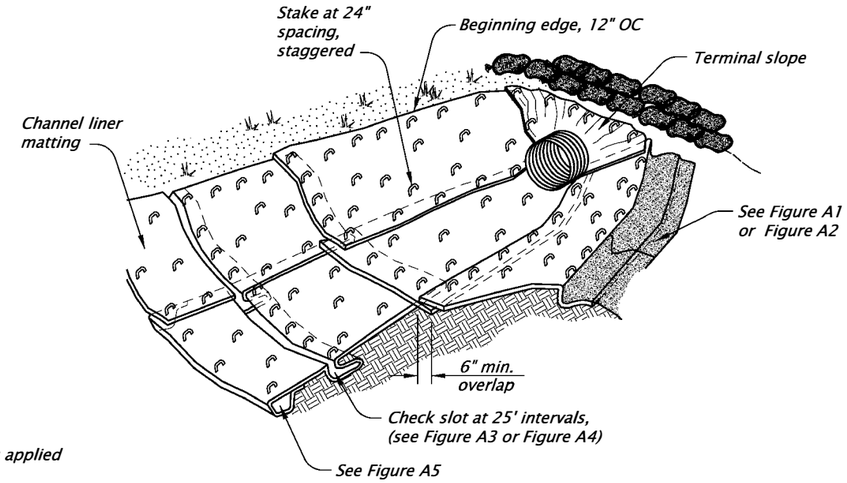


SLOPE MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. *Install matting on smooth soil surface after seeding is applied (where applicable).*
2. *Install matting vertically down slope.*
3. *Install matting so edge overlaps are shingled away from prevailing winds.*
4. *Place fastener at 12" OC on matting edges*
5. *Overlap upper mat over lower mat, and fasten.*
6. *Stagger alternate rows of fasteners placed at 24" OC*
7. *Extend mat 24" beyond toe of slope; fold mat back under 4" and fasten.*
8. *Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.*



STAPLES
NOT TO SCALE



CHANNEL MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. *Install matting on smooth soil surface after seeding is applied (where applicable).*
2. *Install channel liner matting, in the direction of water flow. Anchor upstream end of mat with check slot for culvert outfalls, place mat under pipe 12" minimum upstream from pipe outlet.*
3. *Construct check slots across channel bottom at 25' spacing and at the end of each mat (Fig. A3 or A4).*
4. *Overlap side channel liner matting edges 6" over the center channel liner matting and fasten edges 12" OC Continue overlap and stapling pattern for each additional side channel liner mat.*
5. *Lap upstream matting end 12" over beginning edge of downstream matting. Fasten 12" OC*
6. *Anchor top edge of side channel matting in trench and fasten 12" OC (Fig. A2).*
7. *Fasten matting interior at 24" OC with staggered spacing.*
8. *Construct initial anchor trench at downstream end of matting and terminal slope anchor at upstream end.*
9. *Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SLOPE AND CHANNEL MATTING

2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

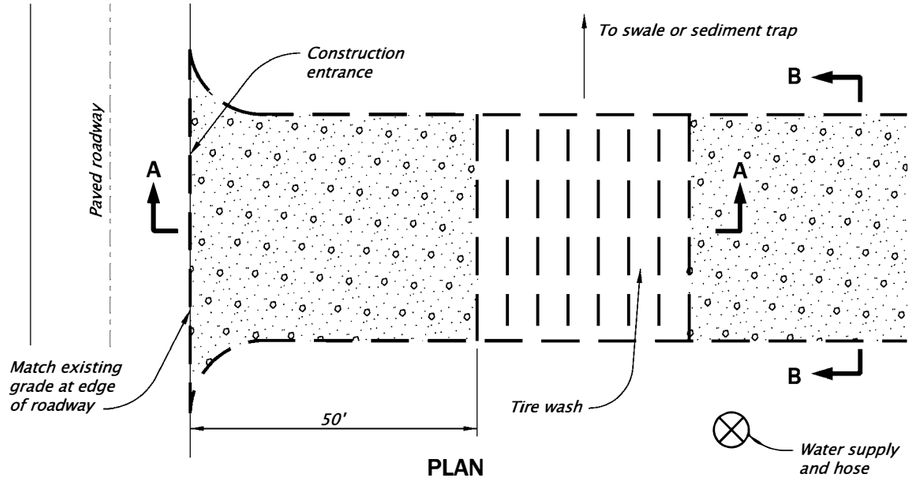
rd1055.dgn 01-20-2021

RD1055

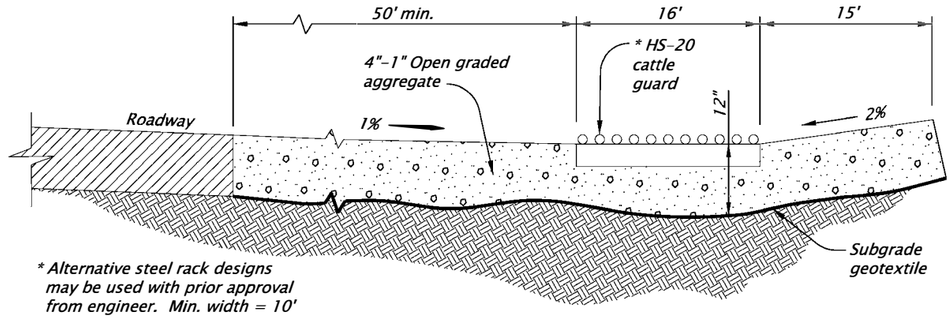
Effective Date: January 1, 2024 - December 31, 2024

RD1055

rd1060.dgn 01-20-2021

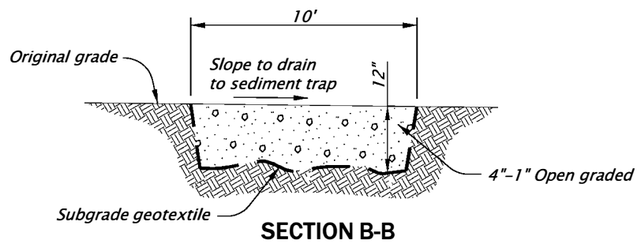


PLAN



* Alternative steel rack designs may be used with prior approval from engineer. Min. width = 10'

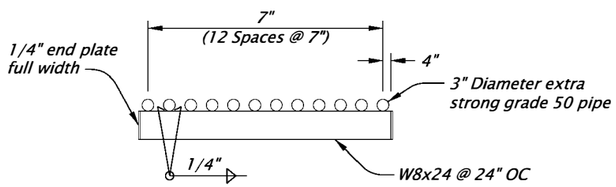
SECTION A-A



SECTION B-B

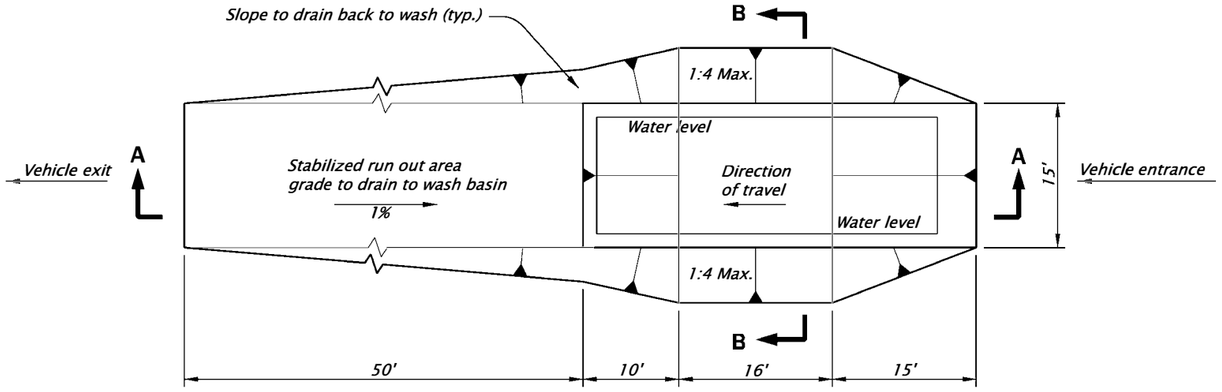
TIRE WASH - TYPE 1 (MANUAL HOSE WASH)

NOT TO SCALE

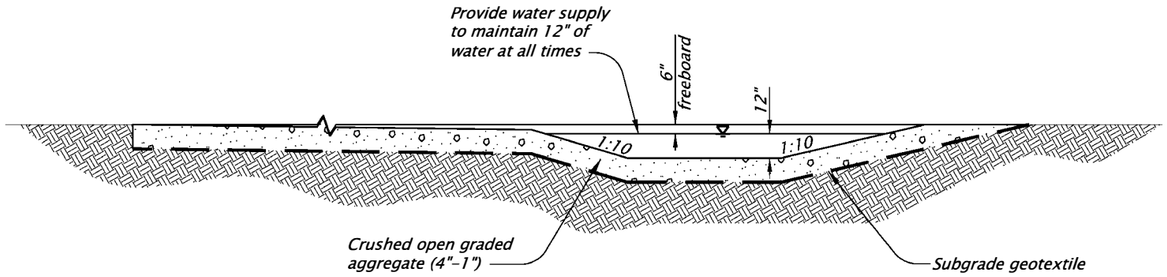


HS-20 CATTLE GUARD

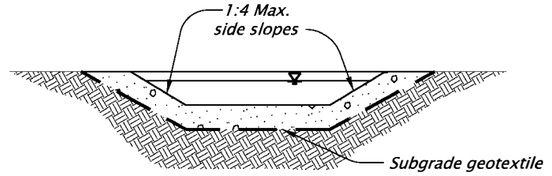
NOT TO SCALE



PLAN



SECTION A-A



SECTION B-B

TIRE WASH - TYPE 2

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

TIRE WASH FACILITY TYPE 1 AND 2

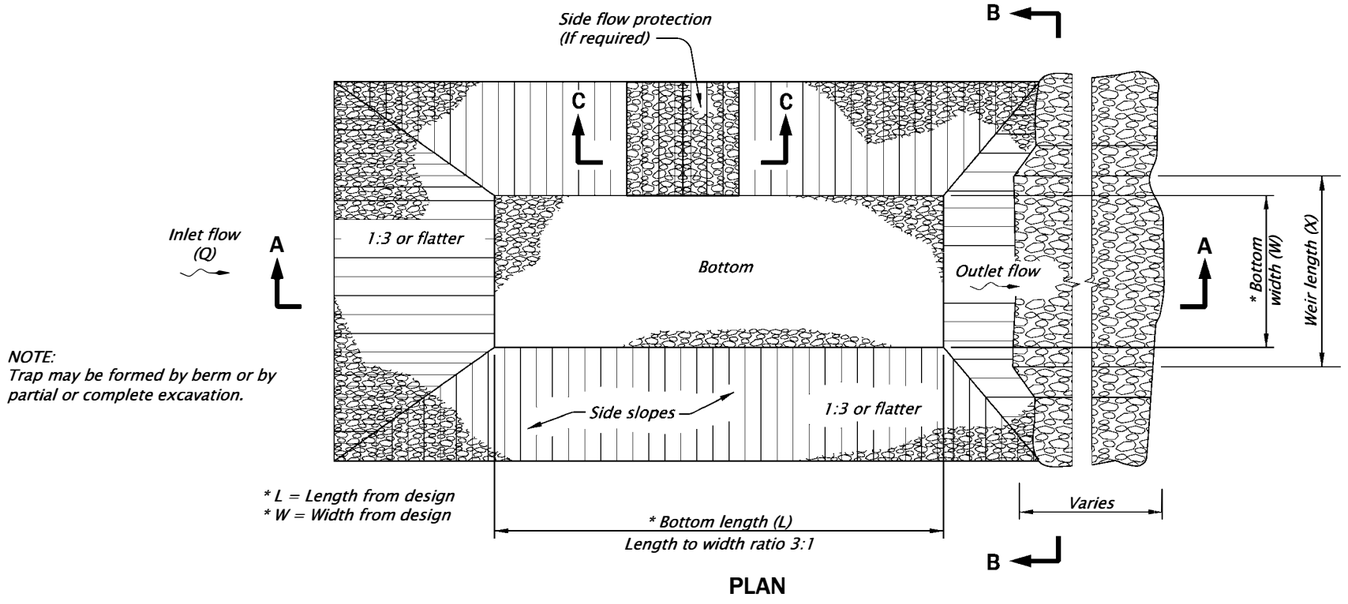
2024

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

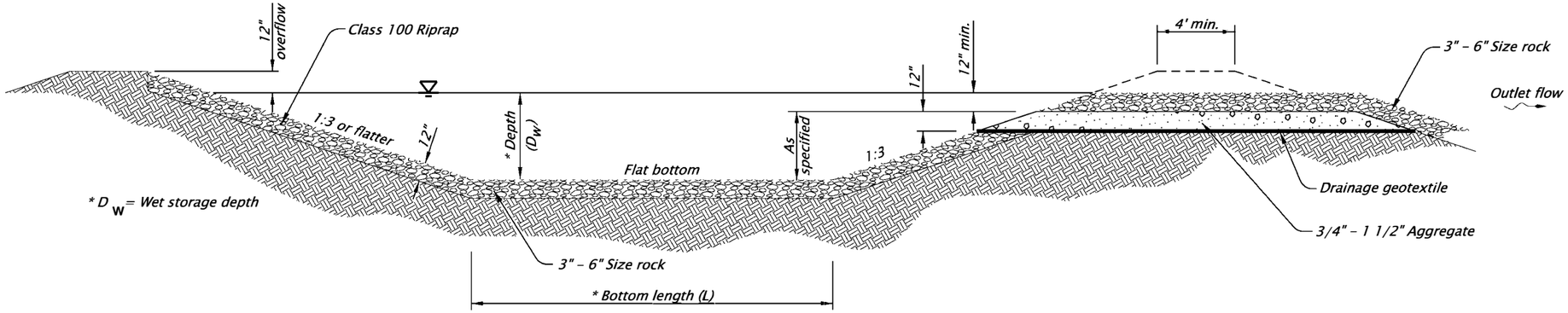
Effective Date: January 1, 2024- December 31, 2024

RD1060

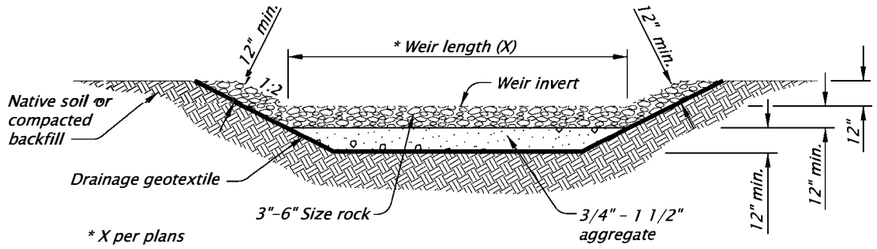
RD1060



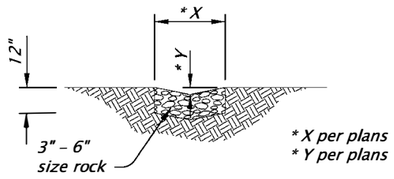
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

SEDIMENT TRAP

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

SEDIMENT TRAP

2024

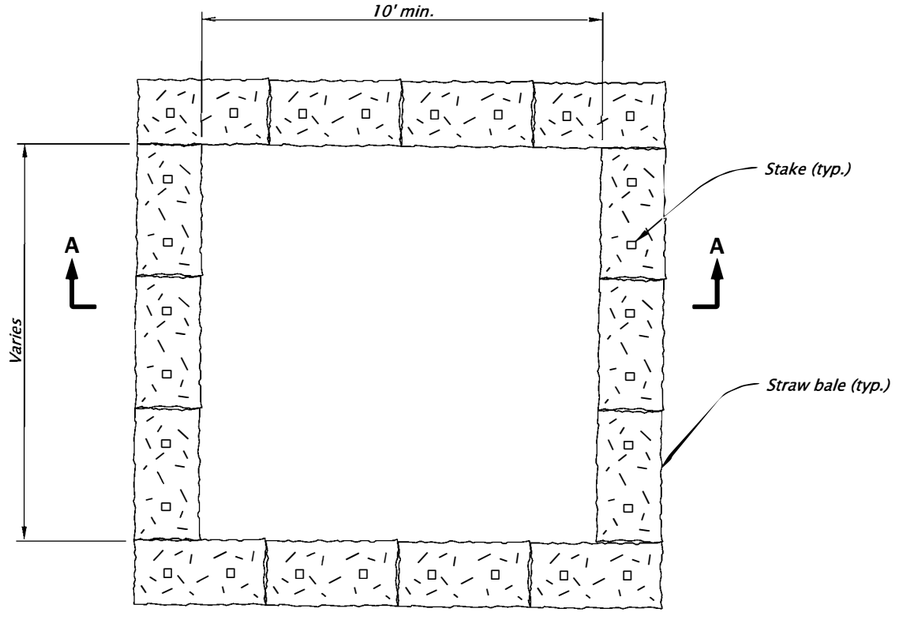
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1065.dgn 01-20-2021

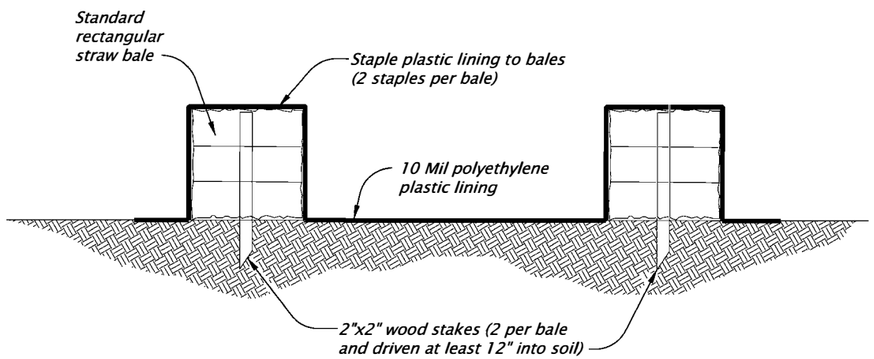
RD1065

Effective Date: January 1, 2024 - December 31, 2024

RD1065



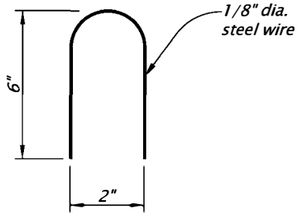
PLAN



SECTION A-A

CONCRETE TRUCK WASH OUT FACILITY

NOT TO SCALE



STAPLE DETAIL

NOT TO SCALE

rd1070.dgn 01-20-2021

RD1070

CALC. BOOK NO. N/A

SDR DATE January, 2021

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CITY OF THE DALLES STANDARD DRAWINGS

CONCRETE TRUCK WASH OUT

2024

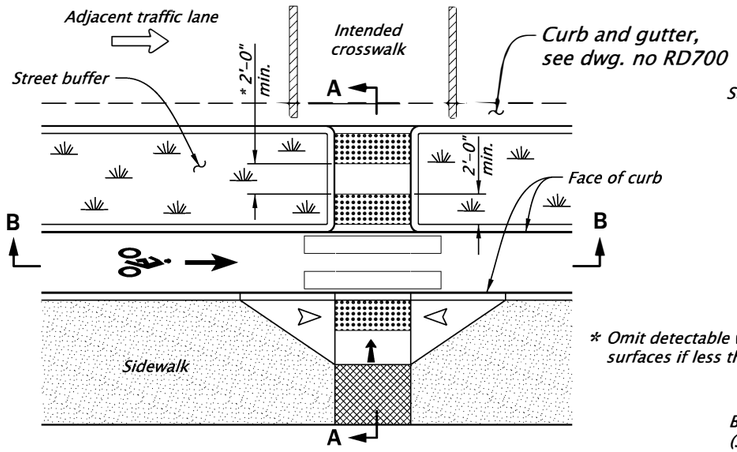
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

Effective Date: January 1, 2024- December 31, 2024

RD1070

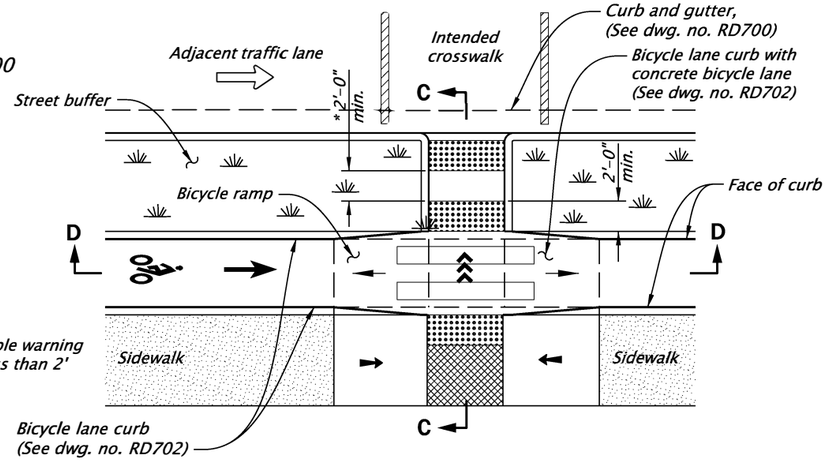
14-JAN-2022

RD1140.dgn

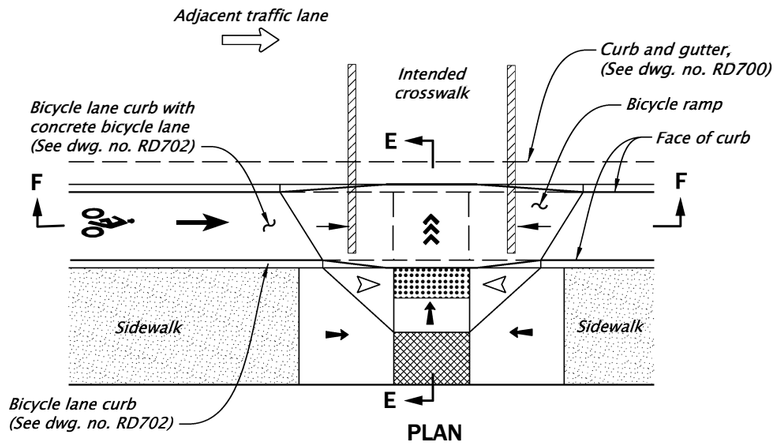


* Omit detectable warning surfaces if less than 2'

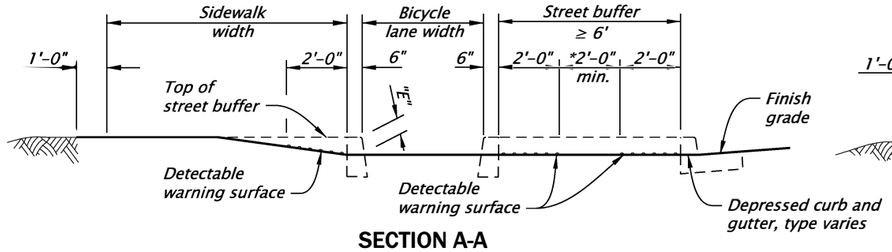
PLAN



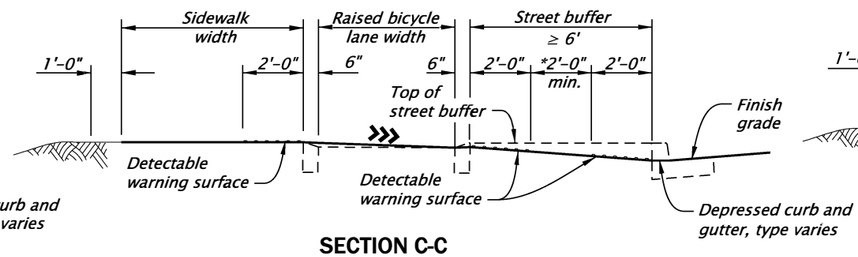
PLAN



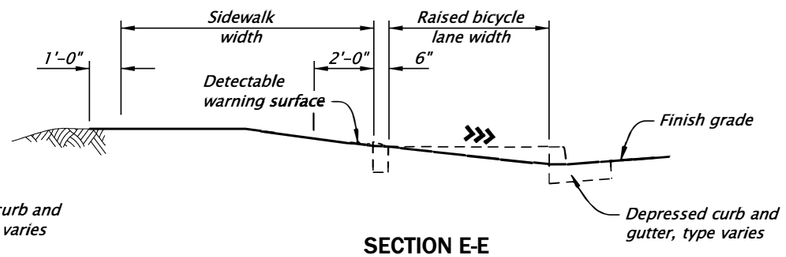
PLAN



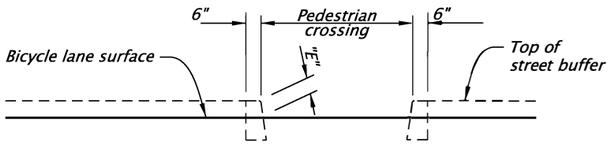
SECTION A-A
(Street buffer ≥ 6')



SECTION C-C
STREET BUFFER ≥ 6'

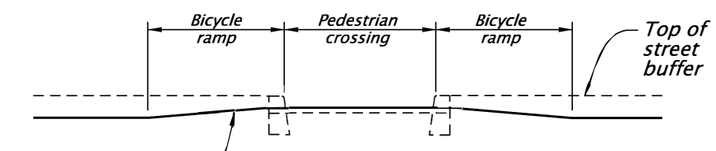


SECTION E-E



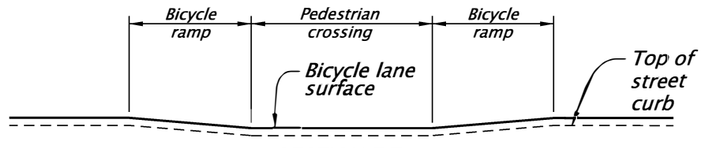
SECTION B-B

BICYCLE LANE WITH STREET BUFFER
(Perpendicular curb ramp shown)



SECTION D-D

RAISED BICYCLE LANE WITH STREET BUFFER
(Parallel curb ramp shown)



SECTION F-F

RAISED BICYCLE LANE WITH NO STREET BUFFER
(Combination curb ramp shown)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Separated bicycle lane Crossing details are based on applicable COTD standard.*
2. *Site conditions normally require a project specific design. See project plans for details not shown.*
3. *See dwg. nos. RD700 and RD702 for curbs. See dwg. no. RD710 for accessible route island. See dwg. nos. TM503 and TM530 for crosswalk markings, widths, etc. See dwg. nos. RD902 through RD908 for detectable warning surface details.*
4. *Ramp slopes shown are relative to the true level horizon (zero bubble).*
5. *Lower bicycle lane curb at all curb ramp pedestrian crossings.*
6. *On separated bicycle lanes (where bicycle lane is apart from road shoulder), gutter pan shall not end in bicycle lane.*
7. *On or along state highways, where curb and gutter is required at curb ramps, add concrete bicycle lane to bicycle lane curb at curb ramps and at inlets.*

LEGEND:

- Staggered continental crosswalk (1' white bars)
- Marked or intended crossing location
- Sidewalk or other traversable surface
- Detectable warning surface (DWS)
- Level area (turning space/landing)
- Running slope, 4.0% maximum. (Maximum 4.9% finished surface slope)
- Running slope 7.5% maximum (Maximum 8.3% finished surface slope)
- Flare slope (Maximum 10.0% finished surface slope)

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All materials shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWINGS

SEPARATED BIKE LANE CROSSING

2024

DATE	REVISION DESCRIPTION
12-2021	NEW DRAWING CREATED

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD1140**

Effective Date: January 1, 2024 - December 31, 2024